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SCIENTIFIC DISSEMINATION AND PROFESSIONAL PRACTICES THROUGH DIGITAL MEDIA: THE STUDY OF PRAGMATIC STRATEGIES IN THE COMMUNICATION OF INTERNATIONAL RESEARCH PROJECTS

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Scientific dissemination and professional practices through digital media

The study of pragmatic strategies in the communication of international research projects

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PhD thesis
2023
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2023

The medium, or process, of our time – electric technology – is reshaping and restructuring patterns of social interdependence and every aspect of our personal life. It is forcing us to reconsider and re-evaluate practically every thought, every action, and every institution formerly taken for granted. Everything is changing – you, y our family, your education, your neighbourhood, your job, your government, your relation to 'the others'. And they're changing dramatically.

McLuhan (1967)
The Medium is The Message

The Internet is one of the most remarkable things human beings have ever made. In terms of its impact on society, it ranks with print, the railways, the telegraph, the automobile, electric power and television. Some would equate it with print and television, the two earlier technologies which most transformed the communications environment in which people live. Yet it is potentially more powerful than both because it harnesses the intellectual leverage which print gave to mankind without being hobbled by the one-to-many nature of broadcast television.

John Naughton (1999)
A Brief History of the Future: The Origins of the Internet

Like any other academic endeavour, the study of language develops in hops and jumps. Sometimes, it goes steadily forward with ideas developing in an incremental manner. At other times, there are sudden bursts of activity and movement in all directions, with steps backwards and sideways as well as forwards. At these times when disciplines and sub-disciplines shift and regroup, it is necessary to question existing ideas, to read outside one's discipline, to rethink, and to tear up existing lectures and notes

Lee and Barton (2013)
Language Online: Investigating Digital Texts and Practices

Agradecimientos

Necesitaría demasiadas páginas para poner los agradecimientos que esta tesis doctoral debería incluir después de más de cinco años. Debería dividirlos también en capítulos, con introducción, resultados y conclusión, porque es lo que siento que las personas que me han acompañado en esta aventura merecen. Me siento muy afortunado de estar rodeado de personas maravillosas, que me han ayudado, han tratado de entenderme y han compartido gran parte de este largo y entretenido camino. Por el bien de quienes lean estos agradecimientos –que, por si no lo saben, soy muy dado a las palabras y las emociones– he intentado ser breve.

Las gracias más importantes para que mi formación como doctorando haya sido excepcional, y que como consecuencia mi tesis doctoral haya llegado a su fin, son sin ninguna duda para mis directoras, Rosa y Pilar. Ha sido un verdadero placer poder aprender sobre tantas cosas, profesionales y también personales, y sentir que he aprovechado esta etapa final de mis estudios en la mayor medida posible. Me acuerdo de decisiones pasadas, y siempre he estado seguro de que no podría haber tenido una mejor supervisión para realizar esta investigación y compartir este viaje. Me he sentido acompañado, escuchado y apoyado en todo momento, y he tratado de contribuir dentro de mis posibilidades para devolver un poquito de todo lo que tan bien me habéis enseñado. Espero que este trabajo pueda ser un reflejo de toda vuestra dedicación.

Como parte del grupo de investigación InterGedi, tengo que dar las gracias también a cada uno de sus miembros, que siempre han contribuido a que aprovechara esta etapa y me han enseñado a trabajar en equipo. Con Quique compartí mi primer año como doctorando en la Facultad de Educación; con Silvia tuve el placer de poder colaborar en la revista *Miscelánea*; con Isabel H. asistí a mi primer congreso; con Ramón presenté mi primera comunicación y compartí mi primera asignatura como docente; y con Isabel C. tuve la osadía de adentrarme en la multimodalidad. A lo largo de muchas reuniones, comidas y congresos, he podido debatir y celebrar con ellos todo lo que me ha ido sucediendo en este tiempo, y eso os lo agradezco de corazón.

En esta experiencia académica, me he encontrado con muchas personas en una situación similar a la mía y he tenido la suerte de dar con algunas que han puesto luz en un camino que a veces puede verse oscuro. Aquí quiero nombrar a mis compañeros de despacho. Gracias a Natalia y a Andrea por estar a mi lado desde que comenzó esta etapa hasta el día de hoy. Debo incluir, por supuesto, mi profundo agradecimiento a Andrés, Sara, Paula, María, Kelly, Alejandro y Laura –con quienes tantos cafés y tuppers he compartido– por vuestro cariño y complicidad. Compartir despacho nunca fue tan fácil y divertido; espero haber estado a la altura. Además, le quiero dar las gracias a Vicky Gil, de quien he tenido el placer de aprender como estudiante de máster y también como doctorando, y que tanto me ha enseñado sobre docencia y generosidad. Por si fuera poco, he tenido el lujo de encontrarme con profesores e investigadores maravillosos de otras universidades que han dedicado su tiempo a contribuir para que este proyecto avanzara de la mejor forma posible. Me quiero acordar en especial de Jan Engberg, de Marina Bondi, de Violeta Delgado, de Jolanta Šinkūnienė y de Josef Schmied.

Como no puede ser de otra manera, reservo un hueco para mi madre y mi padre, que siempre creen en mí y no dudan en que puedo conseguir lo que me propongo (aunque algunas cosas cuesten más que otras). Sé que a veces es difícil entender cómo trabaja un contratado predoctoral y qué investiga un analista del discurso, pero en todo momento os habéis preocupado por querer saber más sobre ello y por hacerme sentir que todo iba a salir bien. Junto a ellos, le tengo que dedicar esta tesis a mi hermano Sergio –como él bien sabe, el mejor hermano del mundo y el único que tengo. Aunque no lo creas, eres el equilibrio cuando me inunda el caos y la paciencia cuando estoy nervioso, y el resultado de esta tesis no habría sido el mismo si no te hubiera tenido a mi lado. Otro rincón de estos agradecimientos es necesariamente para mis abuelos, constantemente pendientes de si tenía fiesta en el trabajo de una vez, de cuándo volvía a casa después de tanto viaje por el extranjero y de si por fin acababa esto de la tesis. A mis yayos también les debo parte de esta obra.

Esta etapa de mi vida quedará ligada al piso de Arzobispo Domenech. Ellos lo saben porque suelo recordárselo, pero me siento privilegiado por haber compartido este tiempo con Jorge y David, que son ya parte de mi familia. Gracias por interesaros por las explicaciones extensas a la pregunta '¿Cómo llevas la tesis?', por conseguir que me haya evadido de la rutina, por compartir el sentido del humor y por hacer tan sencilla la convivencia. ¡Qué bien estamos en el piso! No temáis, porque no habrá una segunda tesis que aguantar. Por supuesto, no puedo dejar de mencionar a Carmina, Suso, Álex, Pablo, Rocío, Alberto, Javi, Diego y Javibi. Nos quedan muchas aventuras por vivir juntos donde y como sea. Es un orgullo haber crecido y seguir creciendo a vuestro lado. No podría estar mejor rodeado.

Otro trocito fundamental de estos años lo he compartido con Andrea y con Marta. Nuestro camino empezó en el Grado en Estudios Ingleses y, como todos los caminos, ha tenido curvas que al final nos han llevado a un destino maravilloso. Me gustaría agradeceros el interés y la comprensión que habéis mostrado siempre. Ojalá me sigáis viendo con los mismos ojos mucho tiempo más. No cabe duda que un punto de inflexión en mi tesis fue la estancia en Dinamarca justo después de la pandemia. Parte de esa bendita culpa la tiene Antonio, que es el mejor anfitrión que uno puede tener en Aarhus. No pensé jamás que se pudiera reflexionar tanto sobre lingüística (y sobre la vida) e investigar de tantas maneras diferentes (incluidas pizarra, grabadora y cámara de vídeo). Ya sabes que las llamadas terapéuticas y eternas de teléfono han sido esenciales para llegar hasta aquí. Tampoco me quiero olvidar de Vicky e Irene, de Ana, de Philipp y de Kevin. Es un gustazo saber que tienes personitas esperando dondequiera que vayas con sus brazos abiertos para recibirte y disfrutar juntos. Nos vamos a volver a ver muy pronto. Gracias a Nuria también por las horas de reflexión, que han sido tan imprescindibles para entender tantas cosas que esta tesis sería completamente diferente, al igual que yo.

Cuando lea este texto en el futuro, quiero recordar lo afortunado y valiente que fui cuando decidí meterme en esta montaña rusa y gestionarla así. Acaba un periodo exigente al que siempre tendré un enorme cariño y que habría sido muchísimo más difícil sin el entorno con el que he tenido la suerte de contar. He aprendido tanto sobre estrategias pragmáticas y sobre mí mismo que solo puedo una vez más estar agradecido.

A todos, muchas gracias.

And you’re standing on the edge, face up,
‘Cause you're a natural
A beating heart of stone
You gotta be so cold
To make it in this world
Yeah, you’re a natural
Living your life cutthroat
You gotta be so cold
Yeah, you’re a natural

IMAGINE DRAGONS

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Abstract

Scientific research is nowadays entrenched in the processes of globalisation and the search for innovation and excellence, leading to growing collaboration, internationalisation and multidisciplinarity. To carry out ambitious and large-scale enterprises, researchers require the expenditure of external funding by organisations, institutions and programmes. Hand in hand with such a reconfiguration of scholarly work goes the ubiquity and popularity of the Internet. A wealth of digital genres, platforms and media enable researchers to spread their investigations towards a wide and heterogeneous audience. By investing efforts into digitally-mediated communication, researchers can contribute to a more effective dissemination of new knowledge and outreach and may achieve higher reputation and bigger impact. One prominent example of this changing academic scenario where digital discourse is maximised for research endeavours is found in international research projects. They consist of networked partnerships of members from different sociocultural and professional backgrounds that make use of websites and social media for the dissemination of their joint projects, utilising the technological and communicative affordances of these digital spaces to offer regular updates, in-progress findings and research outputs. In so doing they cater for accountability towards the funding bodies and raise their visibility among the digital readership. The communicative intents of the research groups to meet these ends are discursively encoded and conveyed through a range of pragmatic strategies, which are framed within given contextual parameters and the affordances of the medium. These strategies unveil how information is shared, findings publicised and potential readers addressed.

Hence, this PhD thesis seeks to investigate the prominent pragmatic strategies deployed by international research groups in their digital discursive practices, which are usually instantiated in project websites and social networks. For that purpose, the EUROPRO Digital Corpus was collected and analysed, containing 30 websites of Horizon2020 research projects (EUROPROwebs subcorpus) and their corresponding Twitter accounts (EUROPROtweets subcorpus). Both subcorpora are extracted from the EUROPRO Digital Database compiled by the InterGedi research group. In my PhD thesis, I propose a data-driven taxonomy as a result of the corpus analysis, comprising 27 strategies organised around three macrocategories, namely informative, promotional and interactional. I disclose the process of designing and refining such analytical tool theoretically and methodologically to evidence its robustness and validity. Then, I look into the range of occurrence, frequency and specific usage of these strategies across the web sections that are most systematic in the websites included in the corpus and in the webpages where most of the project information is hosted (*Homepage*, *About*, *Partners*,

News & Events), in the Twitter accounts, and between the web sections and tweets, in order to observe meaningful patterns and (dis)similarities in their functioning in these digital media. In addition, I also take an ethnographically-oriented perspective by retrieving contextual evidence from informants through semi-structured interviews with researchers involved in the Horizon2020 projects, the results of which help support textually-based findings. Moreover, I offer a multimodal account of how pragmatic strategies are deployed in research project websites in relation to the *Homepages*. This particular analysis allows to acknowledge the meaning-making potential of verbal and visual resources from a pragmatic standpoint. Overall, the present study aims to expand the understanding of fast-evolving and far-reaching digital academic practices, specifically endorsed by research groups, who may benefit from the findings and implications of this research for the future communication and dissemination of their scientific projects.

Resumen

La investigación científica hoy en día está ligada a los procesos de globalización y a la búsqueda de la innovación y la excelencia, lo cual favorece una creciente colaboración, internacionalización y multidisciplinariedad. Para llevar a cabo estas iniciativas ambiciosas y de gran escala, los investigadores necesitan la financiación externa que distintas organizaciones, instituciones y programas pueden proporcionar. Esta reconfiguración del trabajo académico va de la mano de la ubiquidad y popularidad de Internet. Un extenso abanico de géneros, plataformas y medios digitales permiten a los científicos y académicos difundir sus investigaciones a una audiencia amplia y heterogénea. La inversión de esfuerzo en la comunicación mediada digitalmente permite a los investigadores contribuir a una diseminación más efectiva del conocimiento generado, así como cumplir con su compromiso social. Por otra parte, este esfuerzo les puede permitir reforzar su reputación como investigadores y conseguir un mayor impacto. Un ejemplo destacado de este escenario académico cambiante donde se maximiza el discurso digital para propósitos investigadores es el de los proyectos de investigación internacionales. Se trata de consorcios compuestos de miembros provenientes de entornos socioculturales y profesionales distintos que hacen uso de sitios web y redes sociales para la diseminación de sus proyectos conjuntos y utilizan las características tecnológicas y comunicativas de estos espacios digitales para ofrecer actualizaciones periódicas de su trabajo e información sobre hallazgos en progreso y resultados de investigación. De este modo, rinden cuentas a los organismos que los financian y aumentan su visibilidad entre los lectores digitales. Las intenciones comunicativas de estos equipos de investigación para cumplir dichos objetivos se codificadan y transmiten discursivamente a través de diversas estrategias pragmáticas, que se encuadran en determinados parámetros contextuales y que responden a las especificidades del medio y se ven constreñidas por estas. Estas estrategias revelan cómo los investigadores comparten la información, cómo publicitan sus hallazgos y cómo se dirigen a sus potenciales lectores.

Así, esta tesis doctoral tiene como objetivo investigar las estrategias pragmáticas prominentes en lengua inglesa empleadas por grupos de investigación internacionales en sus prácticas digitales discursivas, que normalmente se materializan en sitios webs y redes sociales para sus proyectos. Con este propósito, se compiló y analizó el corpus digital EUROPRO, que contiene 30 sitios web de proyectos de investigación que recibieron financiación en el marco del programa Horizonte2020 (subcorpus EUROPROwebs) y las correspondientes cuentas de Twitter de aquellos proyectos (subcorpus EUROPROtweets). Dichos subcorpus han sido extraídos de la base de datos digital EUROPRO recopilada por el grupo de investigación InterGedi. En mi tesis doctoral

propongo una taxonomía derivada de los datos como resultado del análisis del corpus, que comprende 27 estrategias organizadas en torno a tres macrocategorías: informativas, promocionales e interaccionales. Incido teórica y metodológicamente en el proceso de diseñar y revisar esta herramienta analítica para así demonstrar su solidez y viabilidad. Además, analizo el rango de ocurrencia, la frecuencia y el uso específico de estas estrategias en las secciones que aparecen de manera sistemática en los sitios web incluidos en el corpus y en las páginas web donde se aloja la mayor parte de la información sobre el proyecto (*Homepage, About, Partners, News & Events*), en las cuentas de Twitter y, de forma comparativa, entre las secciones web y los tuits, con el fin de observar tendencias significativas y en cuanto a similitudes y diferencias en su funcionamiento en estos medios digitales. Además, adopto un enfoque etnográfico mediante la inclusión de evidencias contextuales conseguidas a través de entrevistas semi-estructuradas con investigadores de los proyectos Horizonte2020, cuyos resultados ayudan a sustentar los hallazgos procedentes del análisis textual. También tomo una perspectiva multimodal sobre cómo se emplean las estrategias pragmáticas en los sitios web de proyectos de investigación en relación a la sección *Homepages*. Este análisis, en concreto, permite reconocer el potencial de los recursos verbales y visuales para la construcción de significado desde una perspectiva pragmática. En general, el presente estudio busca ahondar en nuestro entendimiento de prácticas académicas digitales que están evolucionando rápidamente y que tienen gran alcance, en particular adoptadas por grupos de investigación, que pueden beneficiarse de los resultados y las implicaciones de esta investigación para la futura comunicación y diseminación de sus proyectos científicos.

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List of acronyms

Acronym	Full terms
AI	Artificial Intelligence
CBA	Corpus-Based Analysis
CDA	Corpus-Driven Analysis
CAQDAS	Computer-Assisted Qualitative Data Analysis Software
CL	Corpus Linguistics
CMC	Computer-Mediated Communication
CMDA	Computer-Mediated Discourse Analysis
CORDIS	Community Research and Development Information Service
CP	Corpus Pragmatics
DDA	Digital Discourse Analysis
DH	Digital Humanities
DMPA	Digital Multimodal Pragmatic Analysis
DOI	Digital Object Identifier
EAP	English for Academic Purposes
ELF	English as a Lingua Franca
ERPP	English for Research Publication Purposes
ESP	English for Specific Purposes
EU	European Union
EUROPRO	European Research Project
FTA	Face-Threatening Act
FtF / F2F	Face-to-Face
FSA	Face-Saving Act
GA	Graphical Abstract
GeM	Genre and Multimodality Framework
GIF	Graphic Interchange Format
H2020	EU's R&I funding programme Horizon2020
HMI	Human-Machine Interaction
IBC / IMC	Internet-Based / Internet-Mediated Communication
IMRD	Introduction, Methods, Results, Discussion

INF	Informative (pragmatic strategies)
INT	Interactional (pragmatic strategies)
IRP	International Research Project
MDA	Multimodal Discourse Analysis
MMR	Mixed-Method Research
OA	Open Access
PEDR	Plan for the Exploitation and Dissemination of Results
PES	Public Engagement with Science
PRO	Promotional (pragmatic strategies)
PUS	Public Understanding of Science
ROE	Research-Oriented Elements
RPW	Research Project Website
RRI	Responsible Research and Innovation
RT	Retweet
R&D	Research and Development
R&I	Research and Innovation
SAT	Speech Act Theory
SE	Search Engine
SEO	Search Engine Optimisation
SFL	Systemic Functional Linguistics
SNS	Social Networking Site
TRDP	Twitter for Research Dissemination Purposes
TOE	Topic-Oriented Elements
UI	User Interface
URL	Uniform Resource Locator
UZ	Universidad de Zaragoza
WP	Work Package

Chapter 1

Introduction: The interplay between scholarship, science communication and the digital medium

The ways that research has changed over the last decades are noticeable in scholarly and scientific environments. One implication of such changes affects the communicative environments that researchers are employing, which are steadily more digital. This chapter presents the context for the present PhD thesis, highlighting the transformation of the scholar and the implications this transformation has as to how they communicate nowadays, responding to the needs and demands of diversified audiences. The notion of 'scholarship' has tremendously evolved since the establishment of the digital medium, and innovative trends and practices are being endorsed in order to communicate more rapidly and broadly. Issues such as reputation, credibility, impact, self-representation and visibility are entrenched in this updated concept of the scholar. To meet these goals of growing relevance, science communication has proliferated in online discourses, and novel professional and discursive practices have been flourishing as regards the circulation of knowledge and scientific production addressing a heterogeneous range of readers. The immediacy and connectedness of the Internet infrastructure, together with researchers' desire to maximise the visibility and impact of their work, have led to enhance movements like Open Access (OA) and Open Science. Different models of science are pondered to assess how science has been viewed and approached in connection with its societal functions and the role played by the citizenship. A wealth of terms has subsequently arisen in order to depict how science is communicated between experts and lay audiences, such as dissemination, popularisation, vulgarisation or scifotainment. The optimisation of digital genres and social media is another cornerstone for researchers to effectively meet their goals and circulate the outcomes they produce. Yet, challenges have also emerged involving the increasingly complex notion of audience and the inevitable context collapse entailed in digital communication.

The paradigm of scholarly communication and scientific research has triggered a great number of shifts as compared to previous decades as a result of the new demands placed on researchers in our current information society. The distribution of knowledge and findings is radically different now from what it used to be in the configuration of the academia of the 20th century, pushed by the birth and growth of the Internet infrastructure. This PhD thesis is concerned with the identification and analysis of prominent digital academic practices endorsed by researchers in relation to the use of specific digital genres and media. More concretely, the main objective of this PhD thesis is to investigate the communication leveraged by international scientific research groups working on collaborative projects that have been publicly funded, to understand how they circulate information about their research work and disseminate new scientific knowledge. As digital users themselves, researchers coming from different disciplinary/professional and linguacultural/socioeconomic backgrounds seek to exploit the Internet possibilities and, in so doing, encounter new paths and hurdles that they may follow or clear for their research-related communicative purposes. The analytical lens is placed on how they achieve these ends through a range of pragmatic strategies that contribute to communicating the characteristics, updates and outcomes of their projects to diversified audiences. This context provides evidence of the big changes in the scholarly and professional landscape of the 21st century and in the treatment of knowledge, data and scientific information.

1.1. 21st century scholarship: Challenges and opportunities in the digital era

The arrival and establishment of the Internet has meant unprecedented changes in all the spheres of our lives, both personal and professional. As a result, new opportunities to develop interaction among humans have arisen, entailing not only assets to fulfil our communicative purposes, but also complexities in the communicative processes which require our understanding and mastering. While it may be commonly agreed that our social selves are now inescapably entrenched in digital environments, our professional selves are also growingly affected by the influence of online communication.

Such a statement is especially remarkable if we regard the ways in which 'scholarship' is shifting towards a completely different conceptualisation from the one that was dominant in the 20th century. Scholarship can be by and large understood as "an inherently social activity, involving a wide range of public and private interactions within a research community" (Borgman 2007: 47). It concerns an established way of belonging to a particular epistemic culture and validating knowledge, and is constituted by specific codes, practices and beliefs that form the basis of the scientific community. In his influential book *Scholarship Reconsidered: Priorities of the Professoriate*, Boyer (1990) arranged the theoretical principles and the practical evolution of scholarship around four separate, yet coexisting, functions. These are the scholarship of 'discovery', related to research; the scholarship of 'integration', related to the capacity of synthesis; the scholarship of 'application', related to practice; and the scholarship of 'teaching', related to both pedagogy and active learning. His work laid the foundations for the reflection

about scholarship and the search for a more sustainable system to shoulder it. As such, his conceptualisation has been contested and refined in later works to describe the changes and dilemmas affecting scholars' work (e.g. Paulsen and Feldman 1995; Nicholls 2005; Huse 2020, to name but a few). Even though there continues to be research efforts for the normative rethinking of scholarship nowadays, one thing remains the same as Boyer (1990: 19) contended: "the dominant view of being a scholar is to be a researcher –and publication is the primary yardstick by which scholars are measured". This means that the scholarly system was and is largely ingrained in the publish or perish status quo, which can be defined as "the pressure put on academics to publish in scholarly journals rapidly and continually as a condition for employment (finding a job), promotion, and even maintaining one's job" (Moosa 2018: 1). Yet, this general definition lacks updating in light of the digitalisation and globalisation that characterise our current world.

The figure of the 'researcher'[1] has enormously evolved due to the digital revolution and the game-changing role that technology plays in our professional endeavours and practices. One first aftermath seems to lie in researchers' needs and wants to look for opportunities that enable them to improve their positions and careers through digitally-mediated communication. This new scenario is evidence of a greater competitiveness among researchers, imposed by institutional systems and standards more than ever before. A myriad of studies for the last two decades have precisely inquired into the demands researchers need to comply with and the tasks they have to carry out as part of the fast-evolving institutional and educational settings in which they work. Such interest has been sparked specially in relation to the digital medium in order to depict the changing landscape in academia and the scientific world (e.g. Borgman 2007; Pearce et al. 2010; Barbour and Marshall 2012; Kieslinger 2015; Esposito 2016; Kjellberg and Haider 2018; Lupton, Mewburn and Thomson 2018; Weller 2018; Herman and Nicholas 2019).

The arising questions, then, could be *How is the digital scholar conceived?* and *What do we understand by* ***'digital scholarship'***? The project 'Demystifying Digital Humanities' at the University of Washington, whose members are interested in circulating work in research and teaching from the community of scholars and practitioners engaged in 'digital scholarship', states that:

> "Digital Scholarship" is defined as any scholarly activity that makes extensive use of one or more of the new possibilities for teaching and research opened up by the unique affordances of digital media. These include, but are not limited to, new forms of collaboration, new forms of publication, and new methods for visualizing and analyzing data.
>
> Source: Demystifying the Digital Humanities (https://uwdigitalprojectsshowcase2015.wordpress.com/)

The outcomes of the digital reality are thus highlighted in a way that renders clear how dramatic the implications are for researchers to work with digital media in all their daily routines,

[1] 'Researcher' is the preferred term to refer to the individuals working within academia and undertaking scholarly investigations across scientific disciplines. To this respect, the terms 'scholar', 'academic' and 'scientist' are encompassed within the figure of the 'researcher' and may be employed rather interchangeably throughout this PhD thesis.

whether this is desired or not. Indeed, the tendency for scholars to communicate online and take profit from digital media is not foreseen to decrease in the next years at all, but they are "to become fully digital […], both as a result of policy initiatives, economic pressure, and usage practices that facilitate this change" (Puschmann 2015: 29). Subsequently, there is no chance to overlook the concept of 'digital scholarship', which introduces, as all changes of paradigm, both advantages and drawbacks for researchers and which, therefore, needs understanding and analysis to find out about its current situation and prospective development. Katz (2010: 48) highlights how research can benefit from this new understanding of the scholarly work, since digital scholarship guarantees "rapid and low-cost connection with others; tools that promote our capacity for multi-tasking, multi-processing […]; the interconnected and accessible complex of digital instruments and visualisation techniques […]; and access to an abundance of easily discovered recorded knowledge".

Bearing these advantages in mind, for Weller (2011: 4), a digital scholar is "someone who employs digital, networked and open approaches to demonstrate specialism in a field". This author critically assesses the interweaving of digitally-mediated communication in researchers' lives as a process of acceptance and gradual utilisation rather than a revolution of their system and claims that "the adoption of digital scholarship practices should not be viewed as a progressive scale of improvement, but rather an ongoing adaptation of what tools and practices best suit the needs of academics, learners, higher education institutions and society collectively" (Weller 2018: 64). Likewise, he sketches five themes in the general attitude to digital scholarship, which are: 1) its mainstream nature, so that it gets to be encouraged in practice and broadly accepted; 2) the shift to open policies, in an attempt to highlight the benefits of widely circulating information and replicating research efforts; (3) policy implementation, referring above all to sharing and expanding educational platforms and technology resources; (4) network identities, as shaped by scholars' increasing presence in social media and other platforms used in academic settings; and (5) criticality of digital scholarship, emphasising the necessary reflection on the negative side that may be associated with privacy issues and the abuse of personal data.

Hence, digital scholarship implies that researchers may seek novel and supplementary resources through digital media, to increase promotion and prestige and enlarge the channels through which to accomplish their research and in which to account for it and their findings. Nevertheless, they simultaneously go through new expectations and pressures that can no longer be overlooked. To refer to this digital surge within scholarship, Baykoucheva (2015: 9) employs the notion of 'Scholarship 2.0', paralleling the widespread term used to denote the turning point from the initial stages of the web to 'the Web 2.0':

> The development of new information architecture and Semantic Web technologies that are based on open access, open data, and open standards allow users to exchange content online and collaborate with people of similar interests. The web makes it possible to publish, share, and link text, data, images, video, and other artifacts that can be aggregated and stored in a cloud. In this new-inter-connected digital environment, known as Scholarship 2.0, scientists will be able to use tools provided by the new Internet technologies to collaborate and build new knowledge on the existing science.

In spite of the previous claims, scholarship is still facing a slow-paced, albeit steady, transition between stabilised policies and established academic systems, on the one hand, and a call for change in light of the possibilities offered by the digital medium, on the other. Individual ways to take part in the local and global scholarship of a discipline still very much revolve around the publication of research papers (even when their production has also been altered by the digital medium). For many decades, there has been a fierce competition in the scholarly world to publish one's research results in international highly-specialised and top-quality journals. To achieve that, English has been preferred as the vehicle language for global communication, inasmuch as it could ensure the reach of a wider audience finding a publication, naturally also in digitally-mediated communication. Well-grounded research has been made to claim that English is the academic Lingua Franca (Mauranen, Hynninen and Ranta 2010; 2016). In Mur-Dueñas and Šinkūnienė's words (2016: 71):

> English is, no doubt, the language of science and knowledge communication and scientists and academics from different linguistic and cultural background (to a varying extent across different disciplines and areas of knowledge) are increasingly pressed to publish the results of their research in English-medium publications.

For the past decades, the influence of the **academics' linguacultural background**, basically whether they were English native speakers or not, has received great research attention in order to grasp how scholars enter the competitive race of research publication that can yield them prestige and promotion. Therefore, a specific field of study, English for Research Publication Purposes (ERPP) has necessarily emerged to explore and reflect on the issues behind the interrelation between authors' mother languages, whether English or others, and the international publication system, as well as how they develop genre awareness and knowledge in their research disciplines (cf. Englander and Corcoran 2019; Flowerdew and Habibie 2021). In general, authors have come to agree that the sole idea of *linguistic injustice* to get a paper accepted and published, which stems from the native-non-native divide, should be dismissed (Belcher 2007; Römer 2009; Hyland 2016). Nonetheless, there is a certain preference for Anglo-centric rhetorical, linguistic and stylistic conventions, and more flexibility should be promoted, so that divergent choices regarding these aspects could be equally valid, regardless of the writer's mother tongue and discursive practices (Ferguson, Pérez-Llantada and Plo 2011; Mur-Dueñas 2019).

Beyond this research area based on the traditional academic system, there has recently been a push to grasp how the digital medium may aid to **democratise scholars' opportunities** for publication and users' access to knowledge, preferrably in English, but also growingly in other languages. As such, attention has also been directed towards the ways scholars' publications are circulated online and to other emerging kinds of research output triggered by the possibilities brought by digital platforms and tools. Free digital spaces let academics get rid of requisites and barriers of a, more often than not, arbitrary nature in conventional academic venues –i.e. hierarchical, intercultural, rhetorical, stylistic. Thus, researchers do not need to comply with such requisites and barriers when sharing and showing their pieces of research online. The Internet and its users favour an ideology of integration, mutual exchange and collaboration that is actually complementing the conventional publishing system nowadays, also growingly encouraged by

some national and international policies. Such an alternative route for the production and distribution of knowledge and research brings about an ample set of benefits for universities and institutions and, consequently, for the scholars involved in them, the most salient one being perhaps the elimination of a mandatory regulation and procedure, typically centred on the peer review system, to be able to get research published digitally. Hence, academics have the ability to avoid physical or economic setbacks (Veletsianos 2016), as well as the chance to openly and widely disseminate their work through a number of distinct digital publishing options, such as electronic journals and magazines and social media platforms.

As was already briefly mentioned, a further implication from the principles of digital scholarship lies in the **pursuit of collaboration** as a more effective asset at the workplace and an additional path for academics to increase their reputation nowadays. On top of working on their own for their individual purposes, scholars are becoming more and more used to collaborating and producing knowledge and research with other scholars, within and across their specific fields of study. "This technology-enhanced facilitation of scientific collaboration and communication on a global scale is causing transformations in scholarship as it offers alternatives to traditional scholarly practices" (Kieslinger 2015: 1). Accordingly, digital scholars strategically move in-between gradual cultural changes into academia and the inescapable traditional practices of their institutions, acting as *double gamers* (Costa 2016). Yet, the potential networking and interaction facilitated by digitalisation is one of the key unprecedented modifications in scholarly life, favouring the rise of international scholarly collaboration, and consequently, the rapid adoption of new relevant values in academia. This implies that, even if collaboration has been systematically present *within* the scholarly sphere, it can now grow further online with colleagues from across disciplines and countries, and surely beyond the academia, exponentially widening the potential audience to be addressed (Pearce et al. 2010). Such an increasingly assumed participatory culture is leading to "call into question some of the foundational assumptions scholars operate under, including assumptions about teaching, research, knowledge production/dissemination, and the academy itself" (Veletsianos 2016: 9). One of the visible aftermaths blooming out of the previous ideas is the increase of research groups and research projects in higher education institutions and professional contexts, complying with the principles of cooperation and interdisciplinarity and with the demands of globalised, competitive work conditions. A broad understanding of what research groups imply is offered as follows:

> Research groups are considered as an organisational measure to increase collaboration between individual researchers; increase the quality of research; create a professional and social environment for permanent employees in academic positions, postdoctoral fellows, and doctoral candidates; and to strengthen work with external financing of research projects.
>
> (Vabø et al. 2016: 9)

It could be argued that such a chance of networking between individual members of universities and institutions to carry out collaborative projects and investigations, primarily in non-face-to-face encounters, has been boosted by the digital context. As such, collaborative work has acquired important weight, encapsulated in the complex forms of collective entities and aggregations of the actions of individuals that are currently orchestrated in digitally-mediated

communication in order to benefit researchers and, by extension, institutions and the scientific world. This is the departure point of the present PhD thesis, whose overarching aim lies in the understanding of the strategic communication of research projects undertaken by international research groups. As Wuchty, Benjamin and Uzzi (2007) affirm, the construction, evolution and stabilisation of research groups are triggered by an apparent shift and a rising propensity that favours, generally across research fields, a model of scientific progress based on teamwork, as opposed to previous solo-based models. The growing popularity and necessity of joined and large-scale investigations responds to the demands of a globalised society striving for innovation, progress and transfer.

The ensuing complex scenario for scholars' everyday work explored above has triggered significant changes in the construction of their personal and professional identities. The notion of identity is no longer approached as something fixed or static, but "as a fluid, plural accomplishment that is constantly under negotiation rather than a single, stable and essentialist entity" (Page 2016: 403). Quite irrespective of researchers' disciplinary background, they all need nowadays to *adopt* an ongoing set of practices and behaviours that may be unfamiliar to them, and *adapt* previous assumptions and ways of doing to the new socioeconomical, political and digital reality that they are facing. Therefore, the notion of **multi-faceted identity** seems to illustrate the many domains researchers are forced to excel in order to get promoted in their corresponding institutions, including teaching classes, carrying out investigations, engaging in projects, publishing high-quality papers, and networking with other universities and scholars. Such a multi-faceted identity gains an extra dimension in digital environments, where users feel compelled to 'always being on' (Baron 2008). Thus, researchers are pushed to be recurrently active in the digital sphere and demonstrate online the many things they are constantly involved in. As discussed above, digitally-mediated communication seems to be, then, a coin of two sides, where one side entails the inescapable endorsement of digital practices, skills and literacies to abide by the rules of the present scholarly system whereas the other side brings along the potential establishment of an identity characterised by reputation and credibility, resulting from the fruitful combination of these facets and the appropriate exploitation of digital resources. In fact, the development of a personalised brand for such professional enterprises enables researchers to maintain contact with complementary audiences other than the institutional ones (Pearce et al. 2010).

The fact that scholars address potentially global, **diversified audiences** makes the management of their multi-faceted identities quite complex in their digital practices, which entail the use of a growingly number of genres and social media. The aftermath is that boundaries dividing professional and private networks are extensively fading (Kieslinger 2015). Consequently, researchers target a heterogeneous set of users and a plethora of blurry contexts, for which they play out identities that cannot be construed in simplistic and binary terms that were possible beforehand, such as online/offline, textual/embodied and fictional/authentic (Page 2016). These ideas underline the importance and difficulty in understanding the audience in digitally-mediated environments, in general, and within scholarly ones, in particular. Raising awareness about the potential addressees of the texts and genres in which research is encapsulated and disseminated is a relevant step that needs corresponding appropriate discursive and linguistic

choices. The convenience of such metalinguistic awareness stems from the fact that "technology undoubtedly provides us with a range of tools which enable us to interact in different ways within more diverse and dispersed networks than previously imaginable" (Merchant 2006: 235). Hence, heterogeneity is inevitably present in the likely readership of what researchers publish online, involving specialised users as much as the lay public that happens to visit and consume the published content. As a result, "science and the public are both much more diversified and fuzzy than their neat rhetorical separation would make us believe, and their relationship has a much less hierarchical character than in the bygone era of big science" (Puschmann 2015: 33). The relationship between scientific research and knowledge and how the public consumes and interacts with it will be explored in more detail in Section 1.2 with respect to the models of science communication. The digital identity portrayed by researchers, as affected by the likely uncertainty of the audiences targeted and the multifactedness of their work, may be perceived as blurred, since it meshes personal, social and professional traits to some extent. Indeed, the unpredictability of the identities and characteristics of the audience to be contacted has been explained through the notion of '**context collapse'**. The idea probably originated in Meyrowitz's (1986) seminal book *No Sense of Place: The Impact of Electronic Media on Social Behavior*, where he explores the changes provoked by media in our routine and identity, altering the 'situational geography' of our daily lives. The concept flourished later in relation to study of the participatory and networking conditions of the Web 2.0 (e.g. boyd 2002; Marwick and boyd 2011; Litt 2012; Davis and Jurgenson 2014). The underlying principle of context collapse in digital communication is typically constituted by the fact that the digital medium "flattens multiple audiences into one" (Marwick and boyd 2011: 122), so "Who does one attend to if friends, family, colleagues, and coworkers are all in the same actual audience?" (Litt 2012: 332). A further insightful divide is put forward by Davis and Jurgenson (2014), who propose two derivatives of context collapse, respectively designated as 'context collusions', where the collapse has been pursued taking advantage of the ease of network growth in online settings, and 'context collisions', where the collapse is unintentional and users rather try to solidify the boundaries around the information they spread. Such context collusions and collisions may well occur in the case of academia and science, where researchers communicate to a larger than ever crowd of people that they may not directly see, know, talk with or even imagine.

Despite some of its complexities, the establishment of digital communication in the research world has enormous perks, too. One of them involves how scholars' connections and networks have been enhanced over the last twenty years, promoting the exchange of information of mutual interest to them. This, in turn, has accelerated not only the dissemination of researchers' formal products, which could be understood as publications from their investigations, but also the quantity and quality of **informal communication** among them, which was unimaginable in the past (Borgman 2007). The Internet, and its never-ending development, has allowed the possibility to use new alternative channels for research purposes apart from electronic journals echoing the traditional publication system. Digital genres and media in general entail a series of affordances maximised by all users depending on their goals, and so is the case when exploited by researchers, who are slowly but steadily seeing the potential leverage of getting involved in academic digital communication. Researchers have definitely started to perceive the benefits of digital methods

over past ones to come to terms with the costs and efforts that digital communication inevitably brings (Borgman 2007). A number of technological and communicative characteristics in digitally-mediated communication favour the distribution of research. Puschmann (2015) gather these profitable features around three key functions of academic communication, namely 'legitimisation', 'access and preservation' and 'dissemination'. These functions are said to be shifting scholarly internal values and breaking the links with the pillars of last century scholarship, which seem now fixed and deterministic, such as the configuration of the peer review system itself as we know it (Veletsianos 2016). In the current system of academia, challenges and alternatives brought about by digital communication have been opened up for both scholars and the general public, in the pursuit of profit for both researchers and the visibility of their work.

Nonetheless, the clash between journal publication, as the approved legitimisation of research, and informal knowledge dissemination needs further reflection, considering the new forms of doing research and the publishable outputs deriving from them. The former system is still considered to be 'primary output', whereas researchers' any other outlet would fall into being 'secondary' (Puschmann 2015). This is translated into the fact that publishing specialised articles leads to prestige and reputability, while contributing to society with new knowledge through other sorts of genres and platforms does not apparently report the same academic profit. Consequently, researchers may feel somehow reluctant to completely adopt the digital path, as they are conscious that traditional channels continue to be favoured by academia. Such an unbalance between effort and reward leads researchers to find themselves at a tough crossroad, which usually is worked out by suffering the pressure to publish in internationally well-known journals while simultaneously going online and using different platforms for academic self-promotion and the projection of a digital identity. If allocating time for formal scholarly communication is already an arduous task altering scholars' time budget (Mur-Dueñas 2019), the investment in secondary communicative practices on top of the previous ones is even more demanding for academics (Puschmann 2015). This landscape creates a dichotomy between the positive status of successfully overcoming a peer-reviewed process and the willingness of sharing and disseminating one's investigations with the wide heterogeneous audience and its interdependent societal agents. Since both options are not mutually exclusive, these two *modus operandi* could be framed as complementary rather than restrictive and eliminatory. In the 'dissemination revolutionary infrastructure' two trends notably stand out, namely Open Access (OA) and social media, where the former is tied to researchers' primary output, and the latter is ascribed to further output and to the communication with the public. Both trends, however, point at the development of networks and the growth of audiences and, subsequently, alter the procedure of the conventional peer review processes, applying completely different criteria and methods from the traditional system for the acceptance of digital outlets (Arda 2012). In this sense, OA would be more closely linked to researchers' 'primary output' and social media would serve the purposes of disseminating 'secondary output'.

In as much as the concepts of Web 2.0 and Scholarship 2.0 have gained momentum, the notion of **Science 2.0** is used to indicate the turning point that scientific work is going through, together with the multifarious rearrangements that it prompts for scientists. Science 2.0 "generally refers to new practices of scientists who post raw experimental results, nascent theories, claims of discovery and draft papers on the Web for others to see and comment on", so it is a model in

which these OA practices "make scientific progress more collaborative and therefore more productive" (Waldrop 2008: 69). **Open access** could be defined as the set of "mandates which state that the outcomes of research funded by a particular body need to be released openly" (Weller 2018: 58). Funding stakeholders and institutions play a fundamental role in the process of knowledge creation and distribution, and especially when collaborative research across disciplines and countries is carried out, such as in the case of international research projects (IRPs). Other than the joy of being granted with funding to take on an investigation, the benefits of online free publication have not been consistently reflected into the scholar or professional system yet, although "proponents of open publishing argue that making knowledge freely available enhances scholarship to the wider benefit of society" (Pearce et al. 2010: 38). A further indisputable leverage of OA is found in the search for greater transparency towards the wide public. As investigations should certainly follow the ethical norms germane to original and authentic research, their publishing online entails the willingness to share the methods designed and conceived to be effective for one's work, as well as their results and findings. This provides opportunities for other researchers to replicate studies and to find threads for further research, all of which is dramatically gaining importance for academics and professionals alike:

> Sharing data is seen as a way to leverage investments in research, verify research findings, and accelerate the pace of research and development. In some fields, the data are coming to be viewed as an essential end product of research, comparable in value to journal articles or conference papers.
>
> (Borgman 2007: 8)

Although open access has been argued to rather match scholars' validated output within the academic system, it ensues that such output is to be circulated and promoted, for what the exploitation of social media is on the rise as part of researchers' new practices. These attempts comply with the desire to spread new information out, get findings across and exploit one's research after it is finished. In all, using social media and digital genres to promote the visibility of the researcher and to display one's research is regarded as an additional facet of the researcher's work duties and digital identity, without rejecting the conventional publication system. Their potential to afford the distribution of content, as provided by the Internet infrastructure, is what makes it possible to self-promote one's work on a wide scale (Marwick 2007).

Consequently, researchers' digital practices should embrace the dissemination of their work, as a reflection of "an increasing democratization of information and knowledge" that "has spurred the demand for constant interaction of science with other societal actors" (Puschmann 2015: 24). It needs to be understood in relation to the traditional concept of 'communication' and to 'exploitation', which is to be regarded as the follow-up of dissemination. As explicated by the European Commission in a document entitled "Quick guide and tools for Communication, Dissemination and Exploitation", Table 1.1 represents these three concepts and some of the principles behind them:

Communication (Promote your action and results)	Share your research Display findings Promote your work Multiple audiences: citizens, the media, stakeholders
Dissemination (Make your results public)	Inform about research Describe findings Account for work Scientists, industry, civil society
Exploitation (Make concrete use of results)	Employ others' research Replicate findings Extend work Societal agents, sectors of interest, policy makers

TABLE 1.1. 21st-century tenets for the digital distribution of scientific knowledge.

Related to dissemination is the notion of '**outreach'**, which refers to the transfer that is made from the academic setting where research is carried out to society as a beneficiary of the theories and results of that piece of research. This is attracting attention from different disciplinary fields, and a number of rules have been proposed to highlight the impact that scientists can achieve when promoting outreach through digital platforms:

Rule 1	Stop treating outreach and research as separate entities
Rule 2	Be strategic. Be deliberate
Rule 3	Find *your* niche and story
Rule 4	Branding… Branding… Branding…
Rule 5	Recruit a top-notch team
Rule 6	Focus on the story
Rule 7	Leverage multiple tools to disseminate content and build up your network
Rule 8	Collect and assess data
Rule 9	Iteratively assess what works and what doesn't
Rule 10	Create prestige for public scholarship

TABLE 1.2. Ten simple rules for effective online outreach (from Bik et al. 2015).

A noteworthy example of how scientific dissemination is evolving can be found in international research projects, which necessitate funding for their enterprises and foster the outreach from their work towards societal agents. One of the most prominent funding programmes for which these projects apply is the **Horizon2020 programme**: the largest multiannual Research and Innovation (R&I) framework in the history of the European Union so far. As retrieved from

a webpage of the European Comission, Horizon2020 (or H2020), which has been named HorizonEurope for the present decade until 2030, is defined as

> the EU's funding programme for research and innovation, with nearly €80 billion of funding available over 7 years (2014 to 2020). Horizon 2020 couples research and innovation, and has an emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation.
>
> Source: European Climate, Infrastructure and Environment Executive Agency (https://cinea.ec.europa.eu/programmes/horizon-europe/h2020-programme_es?etrans=es)

As part of the documents provided by the European Commission to the applicant projects, some basic guidelines are shared as for how outreach should be treated and, in general, how dissemination of research could be undertaken through digital media. Figure 1.1 illustrates some of these recommendations in relation to the disclosure of the project itself, of the results that derive from it and to their availability for the general public. Suggestions include associating particular media and genres with the communicative goals pursued.

FIGURE 1.1. Recommendations for the dissemination of Horizon2020 projects.

Source: H2020 Coordinators' Day (https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2017-03-01/8_result-dissemination-exploitation.pdf)

Investigations across research fields and scientific disciplines are steadily having a direct impact on a greater number of stakeholders and societal agents. As Puschmann (2015) concurs, the distinction between internal and external communication, or, put differently, scholarly discourse and science communication, is becoming more and more blurry. This is due to both the advent and increasing use of digital media, and the demands of societal agents for transparency in research that is financed through public expenditure. Therefore, communicating scientific progress and discovery is central to the up-to-date scientific academic practices and addressing distinct audiences, depending on the communicative purpose and the phase of the research, is quintessential to efficiently disseminate research results. These decisions about how science is communicated are imbricated in a number of values and criteria responding to different models and entailing various phenomena as for how information, knowledge and data are treated and distributed. This is the scope of Section 1.2.

1.2. Science communication: Models and information processes

Science communication, understood as all communication touching upon theories, methods and results of science, has changed through time, resulting in several conceptual models being proposed for its characterisation. Bucchi and Trench (2016) represent such evolution through five keywords: 1) deficit, 2) dialogue, 3) engagement, 4) participation and 5) publics. In general, these keywords have been grouped into three salient models to describe the shifts of paradigm in science communication –see, for instance, the works of Akin (2017) and Schmid-Petri and Bürger (2020) for a deeper explanation. The dissimilarities of the models are envisaged in their goals, target publics, channels of communication and favoured ways of expression. Nevertheless, it is hardly observable how agents in science communication have internalised these models and they should be, therefore, regarded as co-existent rather than replacing one another.

The first paradigm is the called '**Deficit Model**', associated with the 1960s and giving way to the Public Understanding of Science (PUS) in the 80s and 90s. Its main point of departure is that laypeople have a deficit of scientific knowledge and understanding that should be repaired (Schäfer and Metag 2021). The ultimate assumption is that, for science communication to be effective, there needs to be an increase in the knowledge and literacy of laypeople, which drives to a higher support and legitimation by the public to science (Schmid-Petri and Bürger 2020). As such, a top-down, hierarchical, one-way view on dissemination of scientific knowledge is defended, with an "emphasis on the public's inability to understand the achievements of science – according to a model of linear, pedagogical and paternalistic communication" (Bucchi and Trench 2016: 155). The 'Deficit Model' then attributes the problem to the public rather than to science itself (or scientists for that matter, in their endeavours to communicate their findings). Thus, science communication is characterised by its simplicity and easy implementation, and places the public away from understanding and influencing scientific discourse. Nowadays, it would be represented by mediated divulgation where the public is taken to be ignorant and persuadable with no judgement in the process of scientific communication. It could be epitomised by scientific popularisations (Sci-Pops), such as the genre of research digests or articles in non-specialised journals and magazines.

In the 2000s, a second model gained momentum: the '**Dialogic Model**' appeared to facilitate the Public Engagement with Science (PES) and brought about a two-way dialogue between science and citizens, placing a greater value on the interaction between academics and stakeholders (Akin 2017). To accomplish the involvement of non-scientific agents in the processes and knowledge production and scientific investigation, transitions were necessary from understanding to involvement: awareness was to be transformed into involvement, communication into dialogue, and overall science *and* society into science *in* society (Bucchi and Trench 2014). The pursuit of joint discussion of science between professionals and the wide public implies that this model aspires to see science communication as a process among equals (Schmid-Petri and Bürger 2020). To that end, public engagement is fostered, referring to "a wide range of science-in-society practices in policy, educational, information or entertainment contexts" (Bucchi and Trench 2016: 156). Nevertheless, critical and sceptical views also raised on the grounds that the dialogue in this model is not genuinely symmetrical (or two-way), the original producers of science and its communication taking over while citizens still have no

significant role in the outcomes produced (Davies et al. 2008). So it can be implied that communicators of science endorsing this model aim at communication in authentic contexts and at attentive listening to the citizenship, but in the end the exchange of views between lays and experts is directed towards the latter filling perceived deficits of knowledge of the former. Current examples of this model could be located in science blogs or Graphical Abstracts (GAs), where a summary of the findings of an article is offered in a concise, pictorial manner to ease their comprehension.

The third model, labelled as the '**Participation Model**', is the most recent one and revolves around the notions of 'Open Science', 'Citizen Science', 'Strategic Science Communication' and 'Upstream Public Engagement'. Participation is seen as "a stronger form of engagement by the public both with scientific ideas and with the governance of science" (Bucchi and Trench 2016: 157). The focus of this model is both on the legitimation of scientific protagonists and the increased autonomy of institutions and individuals to promote science and its communication, bringing meaningful implications for academics and citizens. On the one hand, the instrumentality of science communication is a prominent characteristic in this model, as the process of participating in knowledge dissemination brings along reputation, credibility, impact, image-building, self-branding or positive identity construction. On the other, strongly active agents are said to have now the possibility of taking part in the scientific processes taken by scientists themselves, including the negotiation of scientific communication at various dimensions. Then, research projects and activities count on the participation of non-scientific agents, who help generate new scientific knowledge and results. This is accompanied by a movement towards Open Access (OA) in the outlets published where such results can be consulted. OA is defined by ScienceEurope, an organisation which represents major public organisations that fund or perform excellent, ground-breaking research in Europe, as "the practice of granting access to scholarly outputs (such as publications) to anyone without any costs or other barriers and restrictions, including to most forms of use and re-use by humans and machines". Overall, the joint shaping of science is pursued by prioritising the negotiation of meanings and agendas among institutions, scientists and citizens. As Kessler et al. (2022: 17) contend, "the increasing number of scientists interacting with the media and conducting other public engagement activities may in itself be changing the culture of science". Some examples of the participation model could be encountered in social media platforms, like Twitter, and video abstracts (VAs). In the case of Twitter, users can interact without any barriers with the researchers and the content posted by them, both in lurking and dialogic ways: they can like a tweet, retweet and quote it, reply to the author, or activate hashtags included, to mention just a few actions. VAs, on their part, assist users in ascertaining the purpose and findings of a published scientific paper through a quick overview in the shape of a motion picture, drawing their attention to its gist.

As a consequence, scientific information and results are being exponentially communicated with the aim of ensuring the democratisation of knowledge and a more participatory culture. The accessibility to science, which is facilitated by the ubiquity and immediacy intrinsic to the digital medium also consists in raising the public's interest in science. To this respect, Puschmann (2015: 26) affirms that "rather than merely making the fruits of scholarly research available to the public, citizens are increasingly regarded as active stakeholders

in the scientific process.", to which Lorés (2020: 8) adds that "scientific discourse is taking shape in a context of *civil science*, where policies are increasingly undertaken to make science accessible to the public, whether expert or not". What is more, there seems to be a correlation between the deployment of positive evaluative language and the enhancement of the accessibility to science, in that making science open does not only entail widening its access to the citizenship, but also boosting their interest in science (Engberg 2021).

In this vein, there seems to be a transition towards the rejection of the dominant view of popularising scientific discourse, as though scientists were constitutive authorities and the public was absolutely ignorant on scientific matters. Such a standpoint is then contrary to the traditional scope of scientific discourse, which targets "special purpose language employed by scientists in their laboratories or, perhaps more accurately, in their formal papers, journals, articles, and text books" (Roth 2005: 50). Thus, the unidirectional transmission of knowledge from the former to the latter is surmounted, as it would prompt a 'translation' of the discourse, that is, a certain degree of simplification and distortion (Myers 2003). Such a change of mind entrenched in still-to-be-explored opportunities of the digital medium to build communicative bridges among audiences of diverse levels of specialisation may make it unforeseeable how science communication is to be developed in the coming decades. As shown in Figure 1.2 below, Bartling and Friesike (2014: 10) offer a visual representation of how today's research culture may evolve in the future, embracing a wider communication that trespasses institutional and personal networks and that credits other means of disseminating knowledge among scientists and researchers.

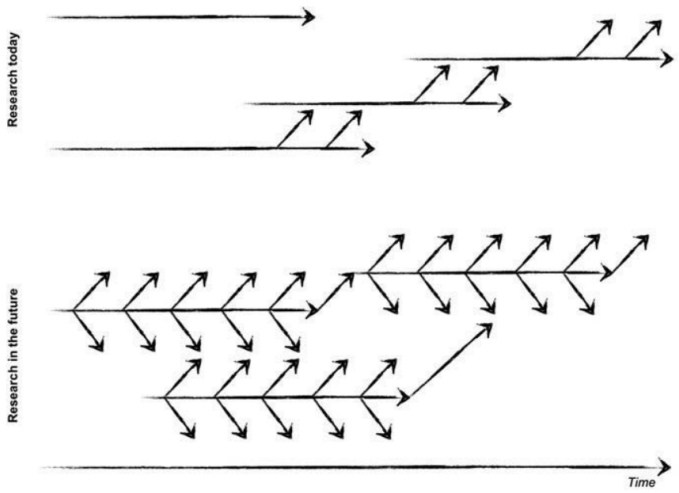


FIGURE 1.2. Graphical representation of research communication patterns at present and in the future (from Bartling and Friesike 2014).

Parallel to the science communication models introduced above, several concepts have been proposed to depict the different ways in which research is transmitted and shared, such as dissemination, popularisation or vulgarisation. At present some of them are more in vogue than others responding to the democratising values and the engaging efforts associated to research endeavours. Drawing on the framework of Knowledge Communication (e.g. Kastberg 2010; 2018; Ditlevsen 2011; Engberg 2016; Bondi and Cacchiani 2021), these concepts should be understood as pursuing dissimilar goals and manifesting dissimilar relationships between researchers and the audience:

> The study of Knowledge Communication aims at investigating the intentional and decision-based communication of specialised knowledge in professional settings (among experts as well as between experts and nonexperts) with a focus upon the interplay between knowledge and expertise of individuals, on the one hand, and knowledge as a social phenomenon, on the other, as well as the coping with knowledge asymmetries, i.e., the communicative consequences of differences between individual knowledge in depth as well as breadth.
>
> (Engberg 2016: 37)

Taking into consideration the previous discussion and the preponderance of 'dissemination' as probably the most neutral and commonly favoured notion in science communication to refer to the circulation and delivery of academic information and research findings, there is a variety of interrelated terms that needs acknowledgement in the current panorama of research transfer, and especially as amplified by the potential of digital genres and media.

The main competing notion may be that of **popularisation.** Whereas dissemination has been highlighted to focus upon knowledge content, popularisation puts the emphasis on building bridges among research producers and consumers, often through emotional bonds (Engberg 2021). In this sense, both terms may involve expert-to-expert communication, but popularisation leans much more upon the didactics of knowledge and it is typical of institutionalised contexts. In its broad sense, 'popularisation' of science, or popular scientific writing, implies "science writing for the general public" (Calsamiglia 2003: 139). "Producing a popular scientific text basically means recontextualising and first and foremost reformulating the source in such a way that it is comprehensible and relevant to a different kind of audience" (Brand 2008: 37). In a more restricted view, "popularization includes only texts about science that are not addressed to other specialist scientists, with the assumption that the texts that are addressed to other specialists are something else, something much better: scientific discourse" (Myers 2003: 265). The main criterion for identifying popularisations as distinct from fully specialised texts is the sort of audience addressed, as the conveyance of knowledge will be geared towards non-specialists for information purposes (Gotti 2014). Thus, two key aspects should be underlined in the communication of scientific knowledge and the discourse characteristically employed to present such knowledge to the general public. The first one concerns the communication process and the position occupied by interactants, while the second one involves the content and how it is produced, comprehended and interpreted (Calsamiglia 2003). The underlying assumption is that "there are two separate discourses, one within scientific institutions and one outside them, and that information is translated from one of these discourses to the other" (Myers 2003: 266). How academic and scientific discourses have been popularised has been widely analyzed (e.g. Nwogu 1991; Calsamiglia 2003; Myers 2003; Calsamiglia and van Dijk 2004; Kyvik 2005; Gotti 2014), and examples of texts and genres aimed at science popularisation comprise textbooks, pedagogical materials, didactic reportages and infomercials, *inter alia*.

Two supplementary concepts directly derive from 'popularisation', as they alter the purposes and relationships between researchers and their audience. One the one hand, '**vulgarisation'** refers to the social appropriation of the public understanding of science and technology. As defined by the Oxford English Dictionary, it entails "the action of making usual

or common; the process of rendering familiar or popular; general dissemination". To vulgarise is then "to reduce to the level of something usual or ordinary", and this is what occurs with scientific knowledge. On the other, there is also a tendency to talk about '**infotainment' or 'scifotainment'**, if the popularisation of scientific discourses concentrates on entertainment in order to engage the readership. Engberg (2021) argues that this notion encompasses broadcast material which aspires to inform and entertain the public at the same time, in such a way that this communication has its primary focus on being entertaining and leaves information in itself as a spin-off. In all, the appealing nature of this type of science communication helps engage readers by nurturing committed relationships in the long term with them, shaping dialogic environments through resources and practices that are domain of popular culture and making them aware of the accessibility to research and researchers (Zhang and O'Halloran 2014; Zhang 2019).

In the introduction of this PhD thesis, I have tried to review the figure of the scholar, approaching the present configuration of the academia and disclosing the multiple professional and discursive practices opened to researchers in the current era of globalisation and digitalisation. Moreover, the historical models of dealing with the circulation of scientific knowledge and research findings have been discussed to pinpoint the direction this is taking in online environments. Section 1.3 below deals with the organisation of the remaining chapters of the PhD thesis.

1.3. An overview of the PhD thesis

The rest of this PhD thesis is organised as follows. Chapter 2 presents the theoretical and analytical conceptualisation and discussion of the **Theoretical Framework** that underlies the study. Section 2.1 focuses on **Digitally-Mediated Communication**, unveiling general notions and features determinant to the understanding of online communication (e.g. affordances, practices, audience). Drawing on ideas from Genre Studies, an overview of recent studies on textual and discursive practices is also offered to observe how Digital Discourse has evolved to face the communicative challenges posed and opportunities raised by the Internet for scientific communication, and how these can be negotiated among users. Section 2.2 delves into **Pragmatics** and is subdivided into two theoretical blocks. First, a review of the goals and aspirations of pragmatic analyses is provided, highlighting well-established theories such as Speech Act Theory and Relevance Theory. Diverse approaches that have emerged as specific research areas of interest within pragmatics are put forward (e.g. Corpus Pragmatics, Discourse Pragmatics, Internet Pragmatics). Second, some classical pragmatic concepts, like 'speech act' and 'face' are discussed in light of the digital medium. In Section 2.3 the notion of 'pragmatic strategies' is put forward as a novel way to look into pragmatic phenomena occurring online. A careful explanation is given of the theoretical principles and methodological considerations that should be regarded to comprehend what pragmatic strategies entail and how they should be analysed in general, and in the context of (digital) scientific communication, in particular. Section 2.4 is occupied with the field of **Multimodality**, and the principles fruitful for the analysis of

digital scientific communication. A broad vision of the central concerns of multimodality is discussed and the main schools of multimodal research are pinpointed. The need to bring pragmatic and multimodal analysis together is enhanced as a rather underdeveloped standpoint to the analysis of digital communication.

Chapter 3 deals with the **Methodology** followed in the study presented in this PhD thesis. The EUROPRO Digital Corpus is described as part of the EUROPRO Repository together with the EUROPRO Digital Database. The corpus under scrutiny for the present analysis is subdivided into two subcorpora corresponding to the two objects of study mentioned above, respectively: the **EUROPROwebs Corpus** contains the sample of research project websites, divided into their inner sections, and the **EUROPROtweets Corpus** comprises the tweets fed in the Twitter accounts managed by research groups for the dissemination of their projects. The steps taken in the development of the study are outlined, specially stressing the problems and decisions in the construction of a corpus of digital texts as well as the concerns and actions surrounding the data-driven analysis of the corpus from a pragmatic vantage point. A special place is given to reliability tests that helped increase the coherence and rigor of the study. Finally, ethnography is enhanced as a complementary methodological perspective in the study of research groups' digital practices. The **semi-structured interviews** designed and used to retrieve contextual data from members of the international research groups are explicated, together with the protocol of interviewing informants and the treatment of the data.

The core of Chapter 4 lies in the two **Objects of Study** of this PhD thesis, which are representative of the developing digital practices endorsed and exploited by research groups in the communication of the work carried out for their international research projects (IRPs). First, **research project websites (RPWs)** are explored as particular instantiations of a website. As such, communicative purposes, targeted audiences and activated affordances are looked into to situate this concrete example of digital practice. The most prominent sections within research project websites are singled out and theoretically constructed. These comprise *Homepages*, *About* sections, *Partners* sections, *News & Events* sections, and other sections like *Work Packages*, *Output* and *Contact*. Second, **Twitter** is uncovered as an outstanding case of Social Media for Research and Dissemination Purposes in scholarly and scientific contexts. General affordances and characteristics of Twitter are provided before narrowing down the conceptualisation to the particular uses made when disseminating new knowledge and scientific findings.

Chapter 5, **Looking into pragmatic strategies,** offers the results of the pragmatic analysis of the EUROPRO Digital Corpus. Section 5.1 focuses on the description and justification of the data-driven taxonomy of pragmatic strategies. The three main macrocategories of strategies, namely informative, promotional and interactional, are defined for the scenario of research project digital communication. Within each of these, the 27 pragmatic strategies identified as prominent in the corpus are set out and exemplified by resorting to authentic examples from the research project websites and Twitter accounts analysed. Then, findings about the range, frequency and usage of the pragmatic strategies of the data-driven taxonomy are offered in relation to the object of study. Section 5.2 unveils the overall and relative use of pragmatic strategies across research project web sections, given their different communicative functions and characteristics. As such, Subsection 5.2.1 is concerned with the pragmatic strategies deployed in

the ***About* section**; Subsection 5.2.2 deals with the use of pragmatic strategies in the ***Partners* section**; and Subsection 5.2.3 introduces the results of pragmatic strategies in the ***News & Events* section**. Rhetorical insights into meaningful combinations of the strategies are foregrounded to comprehend how research groups organise project content in these web sections according to certain pragmatic intentions. Subsection 5.2.4 puts forward the case of ***Homepage* sections,** in which the pragmatic analysis has been combined with a multimodal analysis, for being the landing page of RPWs and a representative example of the interplay between verbal and visual modes intrinsic to these texts. Pragmatic strategies are qualitatively associated with a number of salient clusters in the configuration of research project homepages, as well as with a range of multimodal elements that contribute to complementing or expanding the meaning carried by the strategies. Finally, Section 5.3 aims to explore the pragmatic strategies in the **Twitter accounts** analysed, in order to examine similarities and differences with respect to the web sections.

Chapter 6 closes the PhD thesis up by underlining the **conclusions of the investigation**. The research questions presented in this PhD thesis are responded in light of the results obtained. A reflection of the implications and applications of the study for scientific communication is offered. Limitations of the investigation are critically acknowledged and future lines of research are pointed out to overcome those limitations and keep on tackling the study of the complex digital practices developed by scholars and professionals for the communication of their research endeavours.

Chapter 2

A multi-layered theoretical framework: Digitally-Mediated Communication, Pragmatics and Multimodality

Three main perspectives are disclosed in this Theoretical Framework to lay the foundations for the study of the digital practices surrounding international research projects. Section 2.1 delves into Digitally-Mediated Communication as an encompassing term framing the medium enabled by the Internet where we produce discourse and interact with one another. Subsection 2.1.1 explores general definitions of digital discourse and key notions such as 'affordances' and 'practices', and discusses the research trends that have prevailed over the past years. Subsection 2.1.2 focuses on the perspective of genre analysis as a traditionally favoured approach to the study of (digital) texts. Terminological variability to describe the configuration of genres online and recent research on a plethora of digital genres is reviewed. Subsection 2.1.3 attests how investigations into Digitally-Mediated Communication have placed their lens on academic and scientific discourses. An outlook of reconfigured and emergent digital genres for such purposes is contended, also concerning the context of research groups and international projects. Next, Section 2.2 focuses on Pragmatics, which is adopted in this PhD thesis as the principal perspective for the analysis of strategies in the communication of IRPs online. A comprehensive overview of the objectives in pragmatic research is first provided, hinting at the evolution of analytical approaches, especially triggered by the pervasiveness of the digital medium. Then, an approximation to the pragmatic concepts of 'speech act' and 'digital face' is offered. Section 2.3 proposes a conceptualisation for 'pragmatic strategies' as a functional tool for the study of users' intentions in context-dependent communicative situations in digital discourse. Theoretical and methodological considerations are underlined to evidence their rationale and applicability. Finally, Section 2.4 is devoted to Multimodality, since the combination of modes is inherent to digital environments and the meaning-making possibilities that users resort to and negotiate according to their pursuits. The explanation of essential concepts in multimodal research like 'mode', 'cluster' or 'layout', and the payoff of combining multimodal analysis with pragmatic research, will lay the foundation for the study offered in Chapter 5.

2.1. Digitally-Mediated Communication: A focus on scholarly and scientific discourse

Communication has experienced a radical change in its configuration and its possibilities with **the advent of the Internet and the Web 2.0**. Conventional ways of producing and receiving 'discourse' are no longer limited to handwritten and printed documents or face-to-face conversations. The 'digital' medium has tremendously impacted the way we express ourselves and establish interactions with others through sophisticated texts, playing an undeniably central role in our everyday communicative practices. This pervasiveness has effected the appearance of a myriad of physical devices to enable digitally-mediated communication, once epitomised by desk computers, nowadays including laptops, mobile phones, tablets, e-books, and virtual reality headsets, to name a few, as paramount gadgets of daily use. Relatedly, the movement from offline to online communication and the potential for ubiquitous, immediate and bidirectional interactions have altogether meant a turning point in the development of new communicative practices and digital affordances, in trying to accommodate users' needs and intentions.

The **level of interactivity** allowed by the Internet is unprecedented and has crystallised into a wide range of digital platforms, media and genres, such as websites of all sorts, collaborative sites, email service providers, social networks and apps. Such a technological, structural system of recipients and formats to hold discourse is hard to conceptualise and lacks consensus as regards the boundaries, affordances and constraints of each of them. As a result, blurriness and interweaving ultimately characterise the formal and functional mechanisms that are activated in digitally-mediated communication. The Web 2.0 and the novel digital practices endorsed and expanded by users have inevitably attracted a lot of scholarly attention, in an attempt to understand how we come to produce and receive digital discourse and manage interactions online. In this sense, there is ample interest both in the cognitive process of creating and receiving digital discourse and in the physical actions of crafting, publishing and sharing textual instantiations of that digital discourse.

Additionally, we face **an ever-growing landscape of objects of study** that entail examples of digital communication and model digital discourse in diverse directions. They encompass media and genres that have already been conventionalised by users to a high extent and conceived of as standard assets of instant and constant communication (e.g. e-mails, blogs, wikis, online news, consumer review sites). They also comprise innovative, albeit already widespread, practices that seek for systematisation and may anticipate upcoming communicative situations and possibilities (e.g. image-sharing and video-hosting social networks, microblogging platforms, crowdfunding sites, robot-mediated communication). To this panorama yet another variable should be incorporated, in that we generate digital discourse in **different spheres of our daily lives and routines** and for various necessities and purposes. Consequently, uses of digital media will surely vary depending on whether they have been developed for personal and individual goals, for socialisation and collaborative enterprises, for research and academic purposes, or for commercial and business exploitation. The outcome of the complexities of digital communication is an endless repertoire of communicative processes and products, in as much as trends and practices in the configuration of digital discourse continue to develop incessantly.

The present chapter focuses on the many ways the digital medium affects current academic and research scenarios. The emphasis is placed on how discourse analysts and applied linguists understand the characteristics and the workings of digital discourse, to observe how this is employed for science dissemination and knowledge distribution, which in this study constitute two meaningful aspects of the communication developed by IRPs. I will therefore resort to a multifaceted theoretical and analytical perspective which combines (Digital) Discourse Analysis and Genre Studies, Pragmatics and Multimodality. Within the present section, Subsection 2.1.1 revolves around the evolution of digital discourse and its main characteristics. In Subsection 2.1.2, I resort to Genre Studies to expand on the conceptualisation of digital communication. Subsection 2.1.3 delves into growingly significant digital practices in scholarly and professional scenarios.

2.1.1. Digital discourse: Texts, affordances, practices

To understand how digital discourse is conceptualised, first **the notion of 'discourse'** has to be focused on. I bring back Blommaert's (2005: 3) philosophical take on discourse as "all meaningful semiotic human activity in connection to social, cultural and historical patterns and developments of use". By extension, 'discourse analysis' is concerned with "the ways people build and manage their social world using various semiotic systems" (Jones, Chik and Hafner 2015: 3). Logically, digital discourse departs from the notion of discourse and, by the same token, Digital Discourse Analysis (DDA) is an extension of discourse analysis, in which the principles traditionally abided to study users' discursive performance have been extrapolated and further elaborated on to the development of communication within the Internet infrastructure. In other words, discourse analysis has long been applied to paper texts and genres and to communicative events taking place offline on the physical medium, either in written or oral form. However, the advent of the digital medium has tremendously expanded the communicative possibilities at users' disposal, so discourse analysis has forcedly evolved along to try to grasp the new discursive mechanisms and linguistic choices that users may display online. It is convenient to bear in mind an all-embracing definition of DDA to identify the niche that this perspective seeks to fill and the implications that research should take into consideration:

> The analysis of digital discourse lies at the intersection of (non)language resources, society, and technology. Therefore, digital researchers can draw on a range of diverse socially oriented language disciplines, whose methods and research tools may be of use in carrying out empirical research [and] also expanded and even combined with others to suitably account for the communicative practices that occur in the digital world and their embeddedness within the social world at large.[2]
>
> (Garcés-Conejos Blitvich and Bou-Franch 2019: 3)

[2] Despite beyond the scope of this PhD thesis, it should be acknowledged that approaches to digital discourse analysis are transcending the identification of textual and linguistic evidence and begin to embrace algorithmic agency to notice the impact of non-human factors in the meaning making processes of contemporary communication (e.g. Bucher 2008; Georgakopoulou, Iversen and Stage 2020; Maly 2022).

Digital discourse emerges in communicative situations enabled and mediated by the Internet infrastructure and realised by a series of textual and linguistic choices shaped by the online medium. Thus, 'digital' and 'online' are in seeming opposition to 'paper-based' and 'offline'. This distinction can also be problematised, since "even though a distinction between online and offline spaces is often made in discussing digital communication, it would seem that the boundary is usually blurred, and both modes are relevant to research" (Kuteeva and Mauranen 2018: 3). The ubiquity and the lack of physicality prevailing in today's communication makes the digital medium worthy of investigation, without overlooking its relationship with offline communication. As Lee (2015: 189) puts forward, "digital discourse, like any form of literacy, does not only stay in one spatial domain, it travels between domains of life and cuts across genres and spatial boundaries". Taking for granted that the establishment of such boundaries is convenient to distinguish digitally-mediated contexts from physical contexts beyond the screen, it is the notion of 'medium' that lies at the core of this divide:

> A medium is something that stands in between two things or people and facilitates interaction between them. Usually when we think of 'mediated interaction' we think of things like 'computer-mediated communication' or messages delivered via 'mass media' like television, radio or newspapers. But the fact is, all interaction – and indeed all human action – is in some way mediated.
>
> (Jones and Hafner 2012: 2)

The shift of medium brings along tremendous consequences for the way communication unfolds between writers and readers, speakers and listeners, all of whom become 'users' in digital settings. 'Digital discourse' seems to be the result of situations of communicative interaction occurring online. Yet, there seems to lack a compelling definition to delineate its approach, its characteristics and its boundaries. Prior to this term (and inevitably parallel to it depending on the research perspectives adopted by scholars), a vast number of notions have been proposed that touch upon what we understand by 'digital discourse'. These comprise, among others, 'netspeak', 'new media', 'computer-mediated communication' and other more general locutions such as 'Internet language', 'digital media', 'electronic communication' or 'interactive written discourse'. In a way, all these terms bring along shortcomings in their scopes: new media lacks in historical perspective, digital media is far too ample and includes objects like videogames or applications, computer-mediated communication is restrictive to the computer and excludes other devices such as smartphones, and so on.

Nevertheless, two of these concepts seem to have opened up the path in the evolution of research on digital discourse. 'Netspeak', a term generally attributed to David Crystal, has been employed to cover the characteristic language uses deployed in digital texts, "displaying features that are unique to the Internet, […] arising out of its character as a medium which is electronic, global, and interactive" (Crystal 2006: 20). Although currently a bit outmoded, the term suitably emphasises the idea that discourse exclusively unfolding online, through the linguistic evidence that users provide, needs to be understood as inherently dissimilar to discourse exclusively unfolding in offline communicative situations.

A more preferred conceptual term is **'Computer-Mediated Communication' (CMC)**, a framework based on Herring's longitudinal work (cf. 1996, 2002, 2004, 2007, 2013, 2019). Walther (1996) provided one of the earliest reflections on the potential of CMC and argued that it is 'hypersonal', overcoming the interpersonal communication provided by face-to-face (FtF or F2F) encounters, due to the combination of social processes with new media attributes. Hence, the digital paradigm has brought along new dimensions of what we understand as source, receiver, channel and feedback, attesting "our abilities to perform interpersonal functions in heightened or augmented ways via CMC" (Walther 1996: 5). Relatedly, the study of digital discourse entrenched in this approach has been formulated as 'Computer-Mediated Discourse Analysis' (CMDA) and has been conceptualised as an analytical perspective to depict online scenarios and contexts (e.g. Herring 2004; Androutsopoulos and Beißwenger 2008; Fitzpatrick and Donnelly 2010) in various research endeavours.

Put differently, many of the precepts and observations of Computer-Mediated Communication are appropriated and reinterpreted in the theoretical discussion of digital discourse. In this sense, although both terms refer to interpersonal interactions mediated online, 'Digital Discourse Analysis' would be a more overarching way of referring to the framework of CMDA, since the latter concentrates on the communicative environment restricted to the computer. Both concepts can be employed as analytical tools for the exploration of context-situated communicative situations and language uses, but digital discourse analysis places a greater emphasis on the social context in which communicative events are framed and on the role of multimodality. Hence, for the purposes of the present study, I advocate for the epistemic scope of digital discourse analysis, under the belief that digital discourse can be regarded as the product of digital communication, which emphasises the kind of interaction and the environment in which it takes place. Ultimately, digital discourse refers to a phenomenon in flux that comprises the language choices, discursive conventions, management of affordances and contextual parameters foregrounded and negotiated by users when communicating online, irrespective of the devices that mediate such communication and emphasising users' practices over the influence of those devices[3]. Digital discourse analysis is then, in my view, primarily connected with social practices and user-based perspectives, recognising the meaningful role it plays for individual users, groups and communities at large.

As highlighted above, the study of digital discourse has evolved over the last decades and diverse concerns have been targeted to comprehend the possibilities that the Internet offers to users, the challenges that these users need to face and master when communicating online, and the future directions that will drive the manner we interact with each other through digital genres and texts. One of the first arenas of inquiry undoubtedly addressed the **dominance of the English language** in digital communication. The privileged position of English had been considered in connection with the notion of 'linguistic imperialism' (e.g. Phillipson 1992; Mair 2002) and, whereas some authors viewed the expansion of English as a logical or not harmful consequence of globalisation (Fishman 1998–99; Crystal 2006), others claimed that the Internet was to contribute to the overpowering status of English and even suggested that it implied a clear threat

[3] For other works on user-based perspectives, see, for instance, Barton and Lee (2013) and Bolander and Locher (2014).

to other minor languages (e.g. Nunberg 2001; Dor 2004). Especially from the inception of the Web 2.0 onwards, the presence of languages other than English started to increase and, consequently, a number of studies prioritised investigating 'multilingualism' in the Internet (e.g. Danet and Herring 2007; Leppänen and Peuronen 2012; Androutsopoulos 2015; Lee 2016). This allowed comprehending how national and transnational communities of users took advantage of digital settings for their own goals and needs, endorsing particular linguistic and discursive practices with their individual choices, under the assumption that the Internet "offers a home to all languages" (Crystal 2006: 320).

Leaving this concern aside and on the basis of English as a privileged language in online communication, the scholarly attention changed progressively towards mapping out the **textual and linguistic phenomena** imbricated in 'digital discourse'. Such motivation complies with two interesting ideas that need to be borne in mind: 1) language use online should be investigated within context-embedded and user-dependent parameters, and 2) it is not an easy task to delineate such parameters and delimit their influence in the production and reception of digital discourse. Concerning the former, "language variation online is socially and generically patterned" and thereby hints at "a differentiated and deexoticized understanding of new media discourse" (Androutsopoulos 2011: 278). As for the latter, "CMC cues are often subtle, highly variable, and relatively infrequent. What is more, their interpretation is highly context-dependent" (Vandergriff 2013: 2). Therefore, it is fruitful to conduct context-situated analyses in order to map specific features and patterns of digital discourse. A few research attempts seeking to analyse the characteristic usage of discourse in online communication are chronologically included below, in a selected list of monographic and edited works digging into DDA. These share the common interest in how digital discourse changes the communicative situations that we deal with on a daily basis, but there is a visible evolution in the research interests from an initial focus on conventions in how writing is articulated online to later concerns with the establishment of social practices through digital genres and media:

- Danet (2001) investigates the aesthetics of online communication through the emergence of artful and playful features of digital writing (e.g. multiple punctuation, eccentric spelling, capital letters, asterisks for emphasis, emotions, abbreviations).

- Thurlow, Lengel and Tomic (2004: 2) intend to cater for the social and cultural transformations triggered by CMC, "by focusing on social interaction – how *identities*, *relationships* and *communities* are being changed or influenced by the internet".

- Thurlow and Mroczek (2011) examine "the intersection between new media and the social use of language", as Baron (2011: xiv) claims in the Foreword. The edited volume emphasises issues of metalanguage and language ideology, being "more broadly concerned with situated language practices of ordinary communicators and *relatively* less concerned with issues of policy and "old" media depictions of language use" (Thurlow and Mroczek 2011: xxix).

- Tannen and Trester (2012: ix) argue for the term "new media" to present the venues where digital discourse unfolds and their goal is to "turn the attention of discourse analysis,

broadly defined, to emerging and rapidly evolving new media platforms for interpersonal interaction".

● Jones, Chik and Hafner (2015: 1) aim to contribute to the understanding of new practices "to communicate, manage social relationships, and get things done, which are challenging how we think […] about texts, social interactions, and even the nature of language itself".

● Garcés-Conejos Blitvich and Bou-Franch (2019: 4) advocate for social practice instead of language in use in their approach to digital discourse, holding that its analysis should be "concerned with how multimodal, multisemiotic resources are employed to enact identities, activities, and ideologies in the digital world".

Similarly, the rise of interest in how the Internet provides users with new opportunities and challenges for communication has concentrated on the specifities linked to the **recipients or material devices** that enable our interaction in the digital medium. Such reflection has given way to the proliferation of concomitant concepts, mirroring the formulation adopted for the framework of CMC. Table 2.1 summarises the existing terminology, sometimes overlapping and used indistinctively, proposed by scholars, in research on digital communication:

<table>
<tr><th colspan="2">Digitally-mediated communication
(Unger 2020; Xie and Yus 2021)</th></tr>
<tr><th>Infrastructure perspective (medium)</th><th>Material perspective (channel, device)</th></tr>
<tr><td rowspan="4">Internet-Based Communication (IBC)
(Beißwenger 2007)

Internet-Mediated Communication (IMC)
(Castells 2000; Cardoso 2002; Yus 2011)

Web-Mediated Communication
(Yus 2015)

Electronically-Mediated Communication
(Baron 2012)</td><td>Computer-Mediated Communication (CMC)
(Jones 1995; Walther 1996; Herring 1996; Gruber 1998)</td></tr>
<tr><td>Computer-Mediated Written Communication
(Cougnon and Fairon 2014);
New Written Communication Forms
(Véronis and Guimier De Neef 2006)</td></tr>
<tr><td>Screen-Based Communication and
Keyboard-to-Screen Communication
(Jucker and Dürscheid 2012);</td></tr>
<tr><td>SMS Communication (Tagg 2012; Cougnon and Fairon 2014);
Mobile Communication (Deumert 2014);
Telephone-Mediated Communication (Cameron and Hutchison 2009);
Smartphone Communication (Yus 2021)</td></tr>
<tr><td></td><td>Graphical Communication (Herring 2016, 2019):
- Avatar-Mediated Communication
- Robot-Mediated Communication</td></tr>
</table>

TABLE 2.1. Overview of analytical terms and approaches to communication mediated in online environments.

Lastly, it is evident that 'digital discourse' has settled down as a prolific research area in which specific high-quality peer-reviewed journals have originated and consolidated to cater for analyses of digital communication, for example, *Language@Internet*, *Journal of Computer-Mediated Communication* and *Internet Pragmatics*, or position the notion of 'medium' at the core of their rationale, for example, *New Media & Society*, *MedieKultur: Journal of Media and Communication Research* and *Discourse, Context & Media*.

All the perspectives in DDA covered above place at the centre of their inquiries the notion of **'affordance'** as a determinant aspect in the transition from offline paper-based to online Internet-hosted communication. A definition of the term is then called for to grapple with the technical and communicative opportunities and challenges that users can manage and should understand in the production of digital texts. The origin of the term is commonly agreed to date back to the work of psychologist Gibson, who considered that both animals and humans possessed an innate ability to notice how objects around them afforded them to do specific actions. In his view, affordances are clues elucidating how an object should be used, typically provided by the object itself or its context (Gibson 1977). The concept was later elaborated on by Norman (1988: 11) in his investigations on Human-Machine Interaction (HMI):

> The term *affordance* refers to the relationship between a physical object and a person (or for that matter, any interacting agent, whether animal or human, or even machines and robots). An affordance is a relationship between the properties of an object and the capabilities of the agent that determine just how the object could possibly be used. […] The presence of an affordance is jointly determined by the qualities of the object and the abilities of the agent that is interacting. […] affordance is not a property. An affordance is a relationship. Whether an affordance exists depends upon the properties of both the object and the agent.

On this basis, affordances have been thoroughly studied from different disciplines, such as sociology, communication studies and computer sciences, and are also an object of discussion in Applied Linguistics in general and, more specifically, in fields like Digital Discourse Analysis and Genre Studies. The ultimate debate common in all disciplines could possibly lie in the role and influence that affordances play in our experiences as agents in general, and as users –or 'produsers' (Bruns 2007)– in particular, when talking about digital communication. Whether conscious or unaware, individual users are provided with opportunities and constraints mediated by the technology to communicate, carrying out their actions and accomplishing their purposes. Relatedly, Hutchby (2001: 453) offers an interesting philosophical reflection by which he ponders that the notion of affordances is pertinent to find the middle ground between the technological deterministic view downplaying the agent's capabilities and the arbitrary constructivist view pondering discourse as the sole sociologically relevant element, overlooking the enabling properties intrinsic to technology:

> The affordances of an artefact are not things which impose themselves upon humans' actions with, around, or via the artefact. But they do set limits on what it is possible to do with, around, or via the artefact. By the same token, there is not one but a variety of ways of responding to the range of affordances for action and interaction that a technology presents.

Along similar lines, affordances are crucial to describe the interplay enabled in digital communication between the properties granted by the Internet infrastructure and the actions that users can negotiate on the basis of those properties. This is what we would label as **'digital affordances'**, which are noticeable and actionable through designed objects on the User Interface (UI). In the argot of technology studies, classifications are proposed to distinguish among digital affordances. They can be 'explicit' (obvious) or 'implicit' (hidden), depending on whether they prompt the user in a straightforward way to take a course of action or may be revealed as a result of a flow of actions –they are referred to as 'pattern' affordances when explicit affordances become conventionalised. They can be 'negative' when they look inactive in greyed areas or are dependent on previous actions to get operated; and they are regarded as 'false' if they mislead users in the range of actions they can take and no effect is caused out of the action taken, for example, because they are temporarily deactivated (Yalanska n.d.).

Overall, as affecting digital genres and shaping users' digital practices, affordances can be classified into five different kinds focusing "on what we can *do,* what we can *mean,* how we can *relate* to others*,* how or what we can *think*, and, finally, who we can *be*" (Jones and Hafner 2012: 5). Then, it is worth investigating which affordances underlie the Internet structure, how they have been incorporated and transformed, what combinations among them are possible to foster a more effective and appealing communication and what users can do to maximise them in general, and to disseminate scientific knowledge in particular. All these aspects contribute to setting up new digital genres, platforms and practices, as Hoffmann (2017: 4) posits specifically concerning social media:

> These digital platforms […] come equipped with particular technological affordances and provide specific compositional templates for users. The platforms' preconfigured text design does not *per se* determine, restrict or preclude content, topic or function of any kind, and it usually gives rise to a plethora of different text genres.

These affordances motivate one of the main changes of paradigm in digital communication, which involves the way we can access and browse information. Askehave and Nielsen (2005) propose a two-dimensional model for genre analysis which tries to reconcile the notions of medium and text and describes two modal shifts users experience when they consume web documents: the 'reading mode' and **the 'navigating mode'** (Figure 2.1**).** The navigating mode, which is the innovative approach in digitally-mediated communication, "allows the reader to navigate the site and actively construct his/her own reading path through one or several sites" (2005: 127). The basic premise behind the two modal shifts is that when users employ any digital text they alternate between their roles of readers and navigators, implying different cognitive capacities behaviours and resulting in a steady change between both roles.

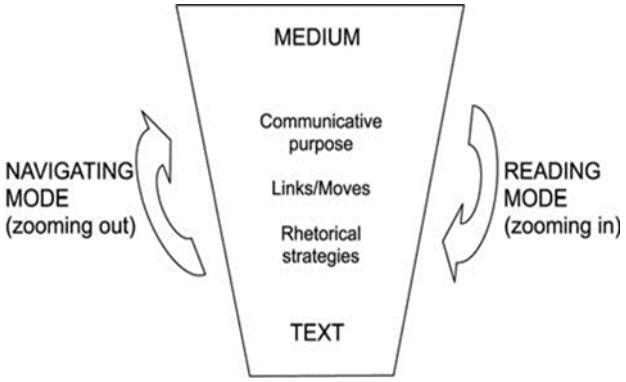


FIGURE 2.1. Askehave and Nielsen's (2005) model representing users' modal shifts in digital genres.

The affordance of hyperlinking digital genres, enabling users to establish a potentially infinite net of web texts and navigate at will, is determinant in this distinction. In this back-and-forth experience with digital genres, the user, in the reading mode, "zooms in on the text and uses the web document as if it was a 'printed' text (basically reads the text)", while, in the navigating mode, "zooms out of the text and uses the web document as a medium (exploiting its navigation possibilities)" (2005: 128). As a result, two reading processes are foregrounded, pinpointing dissimilar guiding principles that users decide to activate and switch when they access a website.

On the whole, affordances are multiple and evolve out of users' literacies and needs. Some of them are deep-rooted in the Internet infrastructure, such as the ubiquity of digital texts and the interactivity users can experience in consuming those texts. Other affordances can be rather associated with particular digital genres and discourses. Forwarding information to other users at a click is possible in e-mails or Twitter (retweeting), but may not be as easy in a blog post or an online newspaper. Synchronous communication can be promoted in YouTube channels, but is not possible in wikis and online consumer reviews. Therefore, a situated analysis of the set of affordances in each digital genre is fruitful, raising out of the technicalities that shape texts as much as resulting from users' discursive and linguistic patterns in those texts.

The exploitation of affordances, in relation to both the orchestration of technical possibilities and the activation of communicative choices, is therefore closely linked to **users' digital practices**. As Jones, Chik and Hafner (2015: 3) claim, "digital practices always transverse boundaries between the physical and the virtual, and between technological systems and social systems". Thus, looking into users' digital practices may be helpful to grasp the inner workings and tangible realities shaping digital communication. From a rather sociolinguistic perspective, Androutsopoulos (2006: 430) emphasises the prevailing variability in the way language is employed and discourse enacted, which is essential to analyse specific communicative situations and discourse communities:

> The time is ripe for supplementing and eventually replacing the listings of 'prototypical' features that have been popular in mode-centered 'Internet linguistics' by a user and community-centered approach, which is promising for a more complex theorizing of the social and contextual diversity of language use on the Internet.

In all, digital practices are developed in order to meet users' communicative goals in diverse spheres of life. At the juncture between language users and their communicative intentions lie digital genres and practices and their corresponding affordances. Communities sharing practices with a significant social meaning stimulate dialogue and foster engagement among users. Nevertheless, clear-cut boundaries are hard to delineate due to the polyfunctionality that can be accomplished in digital communication and this is why situated digital practices are worth exploring in connection with users' context:

> Practices are, in this way, often hard to 'pin down', always changing to meet the demands of new circumstances or to respond to the affordances and constraints of new cultural tools. Complicating this is the fact that practices are almost never engaged in isolation, but are always mixed in complex ways with other practices.
>
> (Jones, Chik and Hafner 2015: 5)

Digital practices endorsed by research groups will be explored in subsequent sections in relation to research project websites and social media. The purposeful operation of affordances will be considered in research groups' deployment of pragmatic strategies in order to further observe how they construct the discourse about their research projects through these two digital settings. The navigating mode that users can manage will also be born in mind by offering a classification of hyperlinks inserted by the research groups. In the upcoming subsection, we turn the focus to Genre Studies, as a convenient perspective to consider how digital practices can be analysed according to users' communicative purposes.

2.1.2. Genre Studies and digital practices and texts

Although it is not the principal vantage point in this PhD thesis, it is inescapable to reflect on the wide-ranging and long-standing theoretical grounds and analytical assets that Genre Studies have conventionally provided to research on scholarly and professional contexts. This perspective may help better understand the position and function of the objects of study within the landscape of digital texts, media and platforms that researchers have nowadays at their disposal and keep crafting and shaping. In a way, 'digital' and 'genre' belong together in our conception of how communicative situations and discourse processes are entangled when we interact online, so considering the perspective of Genre Studies as ancillary to the pragmatic analysis of the data-driven strategies deployed in such digital artefacts seems a sound step to take.

The notion of 'genre' has traditionally been found advantageous to describe the sort of enterprises and practices that we carry out when we communicate with each other in written or oral form in particular, with a body of scholarship growing to conduct studies on research and academic contexts. Broadly speaking, the underlying idea was that 'genre' constitutes "a tool for developing educational practices in fields such as rhetoric, composition studies, professional writing, linguistics, and English for specific purposes (ESP)" (Hyon 1996: 693). As such, it may be a beneficial toolkit to characterise and distinguish the various discursive and textual actions of the interactants involved in a communicative event, as well as the forms and conventions of the texts produced associated to each of those events. Approaches to Genre Studies, both conventional

and developing, have been (and should continue to be) "used to describe texts within textual and social contexts, rejecting the idea that individual texts should be treated in isolation from either their or other texts" (Hyland 2019: 507). Yet, dissimilar starting points led to view genres (and their pedagogical approach) under different lenses in different parts of the world, giving rise to three well-grounded schools of thought (cf. Hyon 1996).

Scholars within Rhetorical Genre Studies (or, else, North American New Rhetoric Studies) regard genre as closely related to social action and rhetorical aims. For Miller (1984: 163), it is specifically "a conventional category of discourse based in large-scale typification of rhetorical action; as action, it acquires meaning from situation and from the social context in which that situation arose". Typification and recurrence seem to be key elements in their take and are also underlined by Yates and Orlikowski (1992: 299), who define genres as "typified communicative actions characterized by similar substance and form and taken in response to recurrent situations". Berkenhotter and Huckin (1995: 3) consider genres as "inherently dynamic rhetorical structures that can be manipulated according to the conditions of use" and affirm that "genre knowledge is therefore best conceptualised as a form of situated cognition embedded in disciplinary activities". Finally, Bazerman (1997: 23) advocates for the usefulness of genres to understand discourse, because it is "a rich multidimensional resource that helps us locate our discursive action in relation to highly structured situations. Genre is only the visible realisation of a complex of social and psychological dynamics".

The second school of thought, the ESP Research Tradition, was developed by the seminal works of John Swales (1990, 2004) and Vijay K. Bhatia (1993, 2004), who share the perspective that the concept of genre is necessarily entrenched in disciplinary communities and negotiated for specific purposes, enclosing particular communicative goals. As such, a genre is "a class of communicative events, the members of which share a certain set of communicative purposes" (Swales 1990: 58) and it "essentially refers to language use in a conventionalised communicative setting in order to give expression to a specific set of communicative goals of a disciplinary or social institution, which give rise to stable structural forms by imposing constraints on the use of lexico-grammatical as well as discoursal resources" (Bhatia 2004: 23).

Third, the Sydney School, which is very much imbued within the tradition of Systemic Functional Linguistics (SFL) and the work of Halliday (1978), is chiefly represented by the work of Martin (1985, 1992) and Martin and Rose (2008). Genre is depicted as a social semiotic and instrumental object that can be fruitfully used for teaching writing and for the analysis of students' literacy. In that respect, genre is viewed as "a staged, goal-oriented purposeful activity in which speakers engage as members of our culture" (Martin: 1985: 25).

Genre analyses applied to digital environments aspire to investigate general genre types and specific generic instantiations that capture the dynamic nature of digital genres on the web. However, the application of the traditional models presented above to digital discourse calls for reconceptualisation of their methodological and analytical categories. Ultimately, the persistence of establishing crystal-clear boundaries around genres that are produced and consumed online lies in their recognition and usability by all interactants and users, in the roles of both writers and readers:

> Viewed from the perspective of the reader of a document, identification of a document's genre makes the document more easily recognizable and understandable, thus reducing the cognitive load of processing it. […] a reader should be able to more quickly determine the purpose and content of our communication and begin to evaluate its contribution. […] Knowledge of genres can similarly help creators of documents by providing a known form for achieving a communicative purpose. Rather than having to innovate in all aspects of a document, a writer can reuse the form of a familiar genre to achieve their purpose.
>
> (Crowston 2010: 2504)

The transition from offline to online communication, which has triggered the birth and establishment of digital discourse, has increasingly gained momentum in generic approaches to investigate the ways in which paper-based documents and conventions have (not) been moved and changed to the digital domain. Dillon and Gushrowski (2000) pointed out advantages and drawbacks in this slow, but steady, (re)configuration of texts and documents. On the one hand, familiarity of form enhances comprehension of users and enables them to draw on communicative experiences in the processes of browsing information and interacting. On the other, the inheritance of paper-dependent genre conventions may hinder the exploitation of the potential of a new medium and the development of the design of new genres, since a different medium opens up novel affordances that are non-equivalent to those of the old one.

Much more recently, Xia (2020: 141) has asserted that "in the digital era, the genre analysts are confronted with epistemological, methodological, and ethical issues", identifying three major research directions: 'digital genre analysis', 'multimodal genre analysis', and 'genre innovation'. To understand how these concepts are central to Genre Studies nowadays, it is fruitful to observe how researchers have attempted to record possible classifications of web genres, depending on their nature, the extent to which they mimic other texts or their online transformation. Table 2.2 below summarises the labels and the rationale of the distinct genre types conceived by researchers in web communication.

We can then affirm that there are different sorts of genres online, depending on their inception, their position on the Internet and their saliency in users' discursive practices, even though their fuzzy configuration has made research attempts to look for conventions uneasy. Beyond the rigid conceptualisation of digital genres, Genre Studies has also underlined that genres cannot be studied in isolation and that the relationships established among them should be looked into so as to better understand their communicative purposes and *raison d'être*. In other words, depicting the possible 'relationships' that (digital) genres may hold and endure over time, enables us to consider them as part of a trajectory of texts and a sequence of communicative events with which interactants may pursue their intentions and perform the necessary actions to fulfil these. Reiterated types of genre relationships have been determined: 'genre chains' (Fairclough 2003; Swales 2004) and 'genre sets' (Devitt 1991; Swales 2004), 'genre colonies' (Bhatia 2002, 2004), 'genre constellations' and 'genre hierarchies' (Swales 2004), and other proposals such as 'genre repertoires' (Orlikowski and Yates 1994) and 'genre systems' (Yates and Orlikowski 2002), as well as 'genre ecologies' (Spinuzzi and Zachry 2000) and 'genre assemblages' (Spinuzzi 2004).

<table>
<tr><th>Scholars</th><th colspan="3">Classification of Web genres</th></tr>
<tr><td rowspan="3">Shepherd and Watters (1998: 99)</td><td colspan="2">Extant genres</td><td rowspan="2">Novel genres</td></tr>
<tr><td>Replicated genres</td><td>Variant genres</td></tr>
<tr><td colspan="3">“Replicated genres, including most digitized text documents, are relatively faithful reproductions of the genres as they appeared in their source media. The content and form are virtually the same and there is little new functionality based on the new medium.”
“Variant genres are based on existing genres but have evolved by exploiting the capabilities afforded by the new medium. The form and content may be somewhat different and there should be substantial new functionality.”
“Novel cybergenres are those genres wholly dependent on the new medium. They may be completely new genres, not based on any genre existing previously in another medium, or they may be based on genres originally replicated in the new medium but which have evolved so far from the original that they are classed as being new genres. The primary distinguishing feature of these genres is a level of functionality that makes it fully dependent for its existence on the new medium.”</td></tr>
<tr><td rowspan="2">Crowston and Williams (2000: 210)

Crowston (2010:2507)</td><td>Reproduced genres</td><td>Adapted genres</td><td>Emergent genres</td></tr>
<tr><td colspan="3">“In a new situation individuals will typically draw on their existing genre repertoires, reproducing genres they have experienced as members of other communities. […] People are also free to modify a genre and communicate in a way that invokes only some of the expected aspects of a form. If these changes become repeatedly used, they too may become accepted and used together with or instead of existing genres, thus extending or altering the genre repertoire.”
“Emergent genres may be immediately accepted or, more likely, there may be a transition period during which the limits of the genre are renegotiated.”</td></tr>
<tr><td rowspan="2">Herring (2013: 7-10)</td><td>Familiar genres</td><td>Reconfigured genres</td><td>Emergent genres</td></tr>
<tr><td colspan="3">“The term ‘familiar’ is used rather than ‘reproduced’ to suggest continuities in (rather than copies of earlier) discourse phenomena. Familiar patterns are presumed to have manifested more-or-less continuously on the web from the 1990s until the present, albeit not necessarily on the same sites.”
“Changes have taken place in both technology and in communicative practices […], which might on the surface appear new but have traceable online antecedents, as well as reconfigurations of such familiar phenomena […] The term ‘reconfigured’ is used rather than ‘adapted’ to highlight the structural reshaping of some discourse phenomena that takes place in Web 2.0 environments.”
“The mechanisms underlying this shift are, on the one hand, the incorporation of new media affordances into familiar text types, and on the other hand, increasing media convergence. When familiar media combine, they often do so in ways that result in qualitatively different, hence what can be considered emergent, phenomena.”</td></tr>
</table>

TABLE 2.2. Classifications of web genres depending on their relation with offline genres and the incorporation of digital affordances.

Some further distinctions around the notion of genre are particularly useful in understanding how they coexist and interconnect online. In her analysis of social media as communicative genres, Lomborg (2011: 58) regards genres as elastic and multidimensional, and ponders a divide between ‘software genres’ and ‘functional genres’ to acknowledge the influence

of both the Internet architecture and users' practices in the emergence and evolution of digital genres:

> The concept of genre as used in this article is elastic and multidimensional […]. At the software level, genres, including online chat, blogs, social network sites, microblogs, and other types of social media, can be distinguished based on their communicative characteristics and interactive functions. Each of these software genres may contain functional genres, characterised by specific communicative purposes and social uses on various levels of specificity.

Within the functional genres identified by Lomborg, more nuanced distinctions may be set. With a narrow focus on academic genres and communicative purposes, Yang (2016; 2017) brings another dichotomy: 'host genres' *versus* 'appendant or attendant genres'. Whereas the former "aim to *create* new knowledge or information", the latter "are chiefly aimed at *sharing* information, and are specifically designed to share information relevant to the host genres" (Yang 2017: 27). He advocates that host genres are a major focus in academic texts and exist independently, while appendant ones have a more restricted space and peripheral status, so they draw less attention and they emerge relying on the host ones. Yet, this relationship of apparent subordination is not as simple, since the unique function and structure of appendant genres may be fostering their heavy use more and more. "Increasingly appendant genres are viewed as indispensable in academic contexts as they perform a higher promotional function to highlight their hosts in the competitive world of academia" (Yang 2016: 91). The relationship indicated by the notions of 'host' and 'appendant/attendant' will be retaken and further elaborated on in Chapter 4 in relation to research project websites and social media accounts.

In addition to these *ad hoc* terminological proposals, scholarly work is aiming to take account of implications that should be regarded in the understanding of digital media. Two main strands can be singled out in this regard. First, scholars have approached the advent of genres within the Internet structure and how they have been hosted in digital media and platforms. We can refer to this reality by using notions such as 'genre adaptation', 'genre emergence', 'genre change' and 'genre evolution'. These are in line with the classification of web genres displayed in Table 2.2. Second, and as a follow-up of the previous concern, there is a high interest in identifying how digital genres are transformed and expand in digital environments, fostered by the continuous development of the Internet and users' behavior. Concepts such as 'genre hybridity', 'genre appropriation', 'genre mixing', 'genre embedding', 'genre blending' or 'genre nesting' are employed to meet these goals and explain how digital practices are epistemologically foregrounded. Additionally, stimulating research is approaching processes resulting from those phenomena by dealing with the 'reshaping', 'repurposing', 'remediation' of digital genres and their potential 'interdiscursivity' and 'recontextualisation' functions. The limits among many of these concepts are not crystal-clear and they many times overlap, demonstrating the complexities that genres entail in online settings due to the potential exploitation of affordances, the blurring of contexts, the change in users' expectations and conventions and, as a result, the exponential possibilities for users to convey their communicative purposes.

Despite not taking a pure generic perspective, Androutsopoulos (2010: 208) proposes the term 'convergence' to describe contemporary web environments and to refer to the processes

between applications, modes and activities that could not be previously joined. Under such a notion, he includes some of the processes we have seen affecting digital genres: 'integration' as the "co-existence of various communication modes on a single platform"; 'embedding' as the ability to place digital content, especially videos, on a web page"; and 'modularity' as "the way in which web pages are composed of a number of different elements – different in terms of origin, authorship, affordances, conditions of production and so on – which are puzzled together within a design template".

'Hybridity' seems to be the key aspect entangled in all the generic phenomena mentioned, and a very problematic issue in capturing the 'prototypicality' of digital genres. Thus, hybridity is "an umbrella term for all kinds of blending, mixing, and combining that occur in genres and texts" (Mäntynen and Shore 2014: 745). In relation to how digital genres function within discourse communities, Herrando-Rodrigo (2014: 38) suggests that "genres cut across disciplinary boundaries and yet they show disciplinary variations. This so called genre hybridity is a result of the bending of conventions that triggers us to do something else". Put differently, hybridising processes in digital genres inevitably lead to hybrid genres influenced to varying degrees in their present configuration by other texts, other goals and other contextual factors. 'Repurposing', then, is another cornerstone in how digital genres are hosted and crafted online, as it can accelerate their hybridity to meet users' new aims. Swales (2004: 73) notes that "sets of texts or transcripts may not be doing what they seem, or not doing what they have traditionally been assumed to have been doing. Social purposes evolve, and they can also expand or shrink.". On the whole, hybridity and repurposing have gained a great deal of scholarly attention in the exploration of digital genres and media, and serve to cater for their recontextualisation when occurring online.

In accordance with the previous theoretical tenets, in the last two decades an extensive variety of digital genres has been investigated not only from technical and structural approaches, but also from linguistic and discursive standpoints. Just to name a few, digital genres that have been conceptualised as for their characteristic architecture and discourse comprise:

- earliest genres like 'e-mails' and 'SMSs' (e.g. Frehner 2008, Tagg 2012)
- 'blogs' (e.g. Miller and Shepherd 2009; Myers 2010; Luzón 2013, 2018; Bondi 2018a, 2022; Pascual 2018, 2021)
- 'wikis' (e.g. Klobas 2006; Bruns 2008; Myers 2010; Kuteeva 2016)
- 'online news genres' (e.g. Ihlstrom and Lundberg 2003; Boczkowski 2004; Breeze 2021, 2022; Facchinetti 2021)
- 'online consumer reviews' (e.g. Hennig-Thurau et al. 2004; Mudambi and Schuff 2010; Vásquez 2014, 2015; Suau-Jiménez 2019)
- 'social media' (e.g. Lomborg 2011; Seargeant and Tagg 2014; Kuteeva 2016; Quan-Haase and Sloan 2017)
- 'crowdfunding sites' (e.g. Liu and Deng 2016; Pérez-Llantada 2021)
- 'corporate websites' (e.g. Bolaños Medina et al. 2005; Casañ Pitarch 2015; Tenca 2018)

As I have been claiming, however, the way genres are utilised by users greatly depends on the context surrounding a communicative situation, and generic instantiations are needed to grasp how they have been transformed and are being applied depending on users' needs and goals. Hence, from a general definition of what they are like we need to narrow down the focus and observe their features and conventions in more restricted spheres of our daily communication. It is, thus, my intention to move in this direction by looking into their application and exploitation for scientific and professional purposes in general, and for the communication of IRPs in particular.

2.1.3. Digital genres and practices in scholarly and professional contexts

Digital media provide unprecedented venues for scholarly and scientific communication, for which novel and emergent genres are being increasingly used. Whereas traditional dynamics in research contexts lead to restricting knowledge for a privileged public, the participatory and dynamic Web 2.0 leads to spreading knowledge among a bigger amount of heterogeneous readers. Waldrop (2008: 73) contends in this regard that "the real significance is the technologies' potential to move researchers away from an obsessive focus on priority and publication toward the kind of openness and community that were the supposed hallmarks of science in the first place". The increase in the digital genres used for specialised communication and the development of novel practices related to knowledge building and sharing are the current focus of much research in Applied Linguistics. In the editorial to their Special Issue on Digital Academic Discourse, Kuteeva and Mauranen (2018: 1) highlight this idea:

> The rapid development of information and communication technologies over the last two decades has impacted academic discourse, writing practices, and research-related communication in major ways, which have meant the emergence of new forms of interaction, together with new genres. New forms of knowledge creation and self-representation online have meant changing language uses.

Meaningful research has already approached some of these new discursive practices, scrutinising how they have flourished and evolved as a result of users' exploitation of technical and communicative affordances. Herring's (2013) widely-known classification of digital genres as familiar, reconfigured and emergent is a useful asset to classify some of these fast-growing digital practices, as illustrated in Table 2.2 above. Familiar genres should be discarded among the practices nurtured by the digital characteristics of the Internet, since they have been just relocated in the online landscape from analogue contexts. Examples could comprise abstracts, book reviews, conference posters and leaflets. By contrast, reconfigured genres that were pervasive in language-based, offline formats and have incorporated a number of digital features include, among others, virtual special issues (Mur-Dueñas 2018), online pre-prints (Delfanti 2015), collaborative research articles (Hynninen 2018), online conference announcements (Lorés 2018), online lectures (Bernad-Mechó 2015, 2017; Querol-Julián 2021), research webinars (Ruiz-Madrid and Fortanet-Gómez 2017) and digital research digests (Lorés 2023). In turn, emergent genres capitalising on the digital affordances that keep gaining momentum for academics and

professionals include research blogs (Mauranen 2013; Kuteeva 2016; Luzón 2018; Bondi 2022), open science notebooks (Wickman 2016; Carter-Thomas and Rowley-Jolivet 2017), video abstracts (Spicer 2014; Plastina 2017; Liu 2019; Coccetta 2021), graphical abstracts (GAs) (Hendges and Florek 2019; Buehl 2022; Sancho-Guinda 2022), video methods articles (Hafner 2018), journal article highlights (Yang 2016), audioslide presentations (Yang 2017), online videos (Erviti and Stengler 2016; Engberg and Maier 2022, Ruiz-Madrid and Valeiras-Jurado 2023) and social media platforms like Twitter (Pascual and Mur-Dueñas 2022; Mur-Dueñas and Pascual 2023; Tardy 2023) or ResearchGate and Academia.edu (Schmied 2021).

Monographic works, edited books and special issues have bloomed in the past years to portray the inescapable changes in the way scientists communicate their work and in the subsequent establishment of novel practices and genres that help them realise these efforts (e.g. Bucchi and Trench 2008; Gross and Buehl 2016; Gross and Harmon 2016; Yu and Northcut 2017; Luzón and Pérez-Llantada 2019; Mehlenbacher 2019; Gruber and Olman 2019; Walsch and Gruber 2019; Hanganu-Bresch et al. 2022; Lorés and Diani 2021; Mur-Dueñas and Lorés 2022; Plo and Corona 2023). The advantages at the juncture of scientific dissemination and digital communication are underlined regarding both the many things researchers can do with the knowledge they produce and the variety of possibilities they have to distribute specialised information, circulate their results and connect with other specialised and lay readers:

> The emergence of Web 2.0 technologies has heralded a new era of research activity and science communication, characterized by the integration of these technologies in the knowledge production and communicative practices of disciplinary communities. The specific technological affordances of new media are revolutionizing the ways in which researchers produce, represent, re-use and share information and knowledge. ICTs and the Web have provided a plethora of new platforms, tools and forms of communication for academics to conduct research, make research objects (e.g. software code, data sets) available and reusable, discuss and share scholarly work, both with peers and the interested public, engage citizens in the research process, and increase the visibility and reliability of their research.
>
> (Luzón and Pérez-Llantada 2019: 2)

A special case interweaving both the academic tradition and the exploitation of digital genres for the communication of science is the one of research project websites. As will be detailed in Chapter 4, they have boomed as a result of research collaboration among universities and institutions across diverse sociocultural and disciplinary backgrounds. RPWs may entail one representation of the revolution the digital medium entails for researchers, in that "every stage in the life cycle of a research project now can be facilitated—or complicated—by information technologies" (Borgman 2007: xvii). As a complex and novel generic practice, research project websites have been investigated from different analytical and methodological viewpoints, such as evaluation (Lorés 2020, Lafuente-Millán 2023), e-visibility (Lorés and Herrando-Rodrigo 2020), engagement (Mur-Dueñas 2021), reformulation (Murillo 2022) and visual design (Corona 2021). Yet, pragmatic accounts are still missing to fully comprehend researchers' intentions in the crafting and updating of these websites. A pragmatic perspective is taken in this PhD thesis to fill this niche, analysing the strategies they deploy to foster the dissemination of project results and the accountability and impact of the research group.

Broadly speaking, in transmitting scientific knowledge, gaps that may overshadow the communicative exchanges between researchers and citizens need to be bridged. Yet, those who are desired to be targeted and those who are actually reached are two different agents out of researchers' control, evidencing that the idea of 'audience' in digitally-mediated communication is tricky, slippery, blurry. The difference between the potential number of users at one's reach and the actual group of users contacted makes it complex to have a clear notion of the audience for which digital discourse is produced. As Luzón (2013: 429) claims, "the indissociability between science communication for peers and for non-specialists has become especially noticeable in online genres used for science communication". The recognition of the diversified audiences that can be addressed within research contexts is illustrated in Figure 2.2, which was originally conceived to single out the expected users in Twitter accounts of IRPs (cf. Pascual and Mur-Dueñas 2022). Yet, the figure can be extrapolated to analogous professional digital settings and contexts.

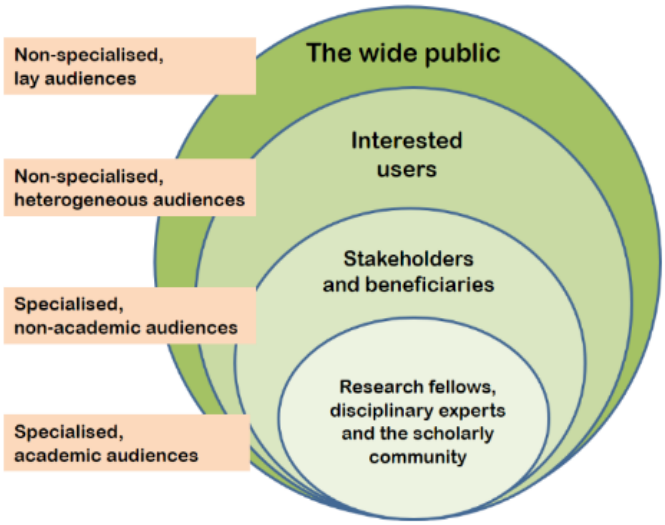


FIGURE 2.2. Diversified audiences potentially addressed and engaged in digital communication for research and professional purposes.

To the left, the different characteristics of the users have been described around two variables: 1) their level of specialisation, giving way to two options (specialised and non-specialised); and 2) their background, including four situations (lay, non-academic users, heterogeneous and academic users). At the top of the figure, the wide public is highlighted, as the general level that includes the rest of users in the levels below. As circles become smaller, the group of users is considered to be more specialised and more tightly connected with the academic public. Heterogeneous audiences refer to users interested in the project for personal and professional reasons, as well as users that have got involved at some time in the project development, such as experiment participants and interviewees. Users interested in the project precede stakeholders and beneficiaries that may have professional relations with the research group. At the core of these diversified audiences lie research fellows from the research group's institutions and from other projects, disciplinary experts in general and the scholarly community, as the opposite of the wide public. Altogether, the categories presented should be understood as

potentially overlapping to some extent, because the boundaries between them are hard to be set and because of the multi-faceted identity of digital users within this context.

In brief, the trends and interests in research endeavours into digitally-mediated communication have been explored in this first section of the Theoretical Framework. Key concepts such as 'affordances', 'audiences', 'digital genres' and 'digital practices' have been discussed to comprehend how discourse is enacted and deployed online and which choices users have at their disposal in different communicative environments. The theoretical exploration of digital settings will continue in Chapter 4, where the objects of study of this PhD thesis, namely research project websites and Twitter accounts, are defined and illustrated. In the next section, I look into the field of Pragmatics, which will serve as the basis for the data-driven taxonomy of strategies that will be applied to the analysis.

2.2. Pragmatics as a field of linguistic research

This section is concerned with the exploration of one of the fundamental theoretical tenets in this PhD thesis, namely Pragmatics, which will be used for the analysis of the scientific project websites of international research groups and their associated social networks. Thus, the concept of pragmatics is approached by recapitulating some advocated definitions of this discipline and by exploring how its traditional concepts have changed over time. The various dimensions of Pragmatics and its potential combinations with other disciplines are also considered in relation to the role they will play in the analysis of the selected texts. Additionally, the main assets from three of the most outstanding pragmatic frameworks, Speech Act Theory, Relevance Theory and Politeness Theory, are discussed as points of departure to understand the purpose and the procedure of the analysis to be offered. Finally, emphasis is laid upon Digital Pragmatics as a field that enables to better comprehend how users interact and develop communicative practices, while utilising the features and affordances of the online medium where the texts to be explored are hosted.

2.2.1. Foundations of Pragmatic Studies

This subsection is devoted to reviewing early and traditional conceptions in the field of Pragmatics and outlining potential combinations for research purposes with other disciplines and fields. Then, the notions of 'speech acts', 'relevance' and 'face' are explored, with the intent of clarifying the manner in which they are connected with –and used in– the investigation of this thesis.

The discipline of Pragmatics

Over time, there has been little consensus about the boundaries of the discipline of Pragmatics because of the many fields of study and areas of research it may cover. Pragmatic analyses and theories can take a perspective of "relating action and context, relating action and communicative action, relating communicative action and interlocutors, and relating interlocutors with the things they do with words in context" (Fetzer 2011: 23). Hence, based on some common ground, which I will try to emphasise in this section, different traditions and scholars have approached the study of the language from a pragmatic perspective according to their own purposes and interpretations.

The discipline of Pragmatics has greatly evolved since its inception pushed by the advent of new media for communication beyond the limited paper-based text in written communication and the physical face-to-face interaction in oral communication. Quite recent trends in the discipline have been moving towards the study of spoken or oral texts, triggering again a powerful interest in pragmatic theories after some time. Yet, Pragmatics is regarded nowadays as broader in scope and it is the digital environment that seems to be of major interest to pragmatic research, regardless of the medium, whether in written or oral form (Culpeper and Gillings 2019). This environment brings about a whole set of new communicative possibilities, erasing previous technological barriers and subsequent communicative limitations. What is more, a great deal of today's international interactions take place online, so the analysis of digital communication is the next logical cornerstone Pragmatics should lay and understand, and has therefore become very enticing from various pragmatic approaches.

This transition, though possibly slow over time, is reflected in the way pragmatics was and is currently conceived. Early definitions focused on establishing a boundary around pragmatics away from syntax and, especially, semantics. Pragmatics was intended to analyse linguistic 'forms' from the point of view of the relationship they hold with the users that employ them for their purposes. To this respect, Mey (1993: 5) claimed that pragmatics is "the science of language as used by real, live people, for their own purposes and within their limitations and affordances". At this point, the emphasis was primarily on the **functionality** of the language as the key feature, pragmatics entailing an abstract system allowing the unveiling of writers and speakers' intents in their utterances.

With the passing of time, **context** has gained a central position in the discipline, and has been added as a fundamental component for the understanding of pragmatic phenomena. Hence, pragmatics is "a general functional perspective on (any aspect of) language", but needs to regard "the full complexity of its cognitive, social, and cultural functioning" (Verschueren 1999: 16). Although context might have been previously overlooked or ignored, the discipline should encompass and acknowledge a more thorough and convoluted variability of contextual factors and agents in any communicative exchange, to unravel the ultimate speaker's intention:

> If the interpretation of utterances could only take into account the context-independent properties of the words and gestures uttered, it would not be possible to work out the implicatures of an utterance and in many cases it would not be possible to work out the proposition expressed.
>
> (Allot 2010: 38)

The hearer and the reader, together with the sender of the message, need to be emphasised much more broadly and deeply as determinant participants in the co-**construction of meaning,** apart from the production and reception of the message. Pragmatics can then be regarded as a holistic "perspective on linguistic phenomena in relation to their usage in forms of behaviour, accounting for the dynamics of language and language use, as […] meaning is not a product and given but rather dynamic, multifaceted and negotiated in context" (Fetzer 2011: 25).

The search for the interlocutors' intentions in an exchange, either visible or hidden, makes pragmatics look at language use not from a purely lexico-grammatical perspective where words in isolation may be studied to understand a message, but from a standpoint where the mix and usage of a number of words and structures help interlocutors transmit a particular purpose in their contextualised messages. Consequently, pragmatics has come to revolve around the interaction between language use and language users (Bublitz and Norrick 2011). It is then the sender's decision how and why to make their contribution rather blunt, simple, ambiguous, etc., as long as the recipient can be expected to properly decipher that intention. Otherwise, there may be room for misunderstanding, which may result in a hurdle to exploit the full desired potential of the sender's message or even a failure in the communicative interaction. This miscommunication unleashes situations of **linguistic underdeterminacy** in an exchange, and pragmatics also attempts to explain the interactional and cognitive gap between the meaning of a sentence and the actual implications derived from uttering and communicating that very same sentence (Huang 2007).

In the digital context, this is even more pertinent, as asynchronous and non-face-to-face interactions tend to predominate. The meaning is decoded most likely based on textual evidence, but not exclusively, as other semiotic codes and multimodal elements play a salient role in the creation and addition of layers to the original meaning (see Section 2.4 below for a detailed explanation). What seems clear is that the lack of a fine-grained delimited physical and situated context hardens the recipient's elicitation of the sender's communicative purpose. In turn, this scenario opens up the functioning of a new set of alternative rules and strategies to fill that gap. The focus of this PhD thesis is to identify and study the pragmatic strategies used in a specific academic digital context out of the unlimited possibilities and flexible combinations for the participants involved.

Strands and approaches to Pragmatics

In deepening into the ways interlocutors interact and react, and possibly to make the boundaries and patterns of the discipline more systematic, Pragmatics has established connections with a number of various disciplines, which study very specific aspects of human communication and language use. In the current context, in which research seeks to create fruitful connections among (un)related fields and enhance multidisciplinarity for a greater development in knowledge, new strands and theories, already developed or starting to emerge, intend to unravel what pragmatics may actually cover and entail. The vast number of (sub)disciplines in which pragmatics is expanding its research scopes is disclosed in Table 2.3:

Pragmatic subdisciplines	Notable research
Cognitive Pragmatics	Bara (2010; 2017); Schmid (2012); Panther (2022)
Computational Pragmatics	Bunt and Black (2000); Jurafsky (2004)
Corpus Pragmatics	Jucker (2013); Aijmer and Rühlemann (2015); Mey (2017); Clancy and O'Keeffe (2019); Weisser (2020)
Discursive Pragmatics	Zienkowski, Östman and Verschueren (2011); Garcés-Conejos Blitvich and Sifianou (2019)
Historical Pragmatics	Jucker (1995); Jucker and Taavitsainen (2010, 2013)
Internet Pragmatics / Pragmatics of CMC	Xie and Yus (2018); Jucker (2019); Xie, Yus and Haberland (2021) / Kitade (2012); Herring, Stein and Virtanen (2013)
Intercultural Pragmatics	Kecskes (2013); Kecskes and Romero-Trillo (2013); Kecskes and Assimakopoulos (2017)
Sociopragmatics	Márquez Reiter and Placencia (2005); Marmaridou (2011); Haugh, Kádár and Terkourafi (2021)

TABLE 2.3. Panorama of subdisciplines and notable research within the field of Pragmatics.

Currently, many of these research areas account for the already established turn to the digital medium in today's communication. Out of them, some subdisciplines are more carefully revised in the following pages, due to their contribution to the study attempted in this PhD thesis.

As justified at the beginning of Chapter 2, context is at the core of the potential pragmatic force of an utterance, thus it appears logical and convenient to consider the characteristics of the participants in an interaction, together with the given situation where such interaction occurs. **Sociopragmatics** is "the study of the ways in which pragmatic meanings reflect specific "local" conditions on language use" (Leech 1983: 10). In order to shed light on the illocutionary forces in the messages of all the speakers involved, "sociopragmatics relates pragmatic meaning to an assessment of participants' social distance, the language community's social rules and appropriateness norms, discourse practices, and accepted behaviours" (Marmaridou 2011: 77). This culture-specific approach, which directly connects with the discipline of sociology, will be considered in this PhD thesis when retrieving information from researchers about their academic digital practice, as will be explained in Section 3.3.

A further direction in which Pragmatics has expanded its research interests involves the field of Corpus Linguistics (CL), resulting in the discipline of **Corpus Pragmatics (CP).** CP started its development probably in the 1990s when attempts to coordinate diachronic research and analyses of pragmatic markers with corpus studies were carried out. Nevertheless, CP truly gained popularity in the late 2000s and the 2010s with a myriad of dedicated monographic and edited works where terms such as 'corpus-based pragmatic' and 'corpus pragmatics' were frequently contended, often in relation to oral discourse and diachronic studies (e. g. Adolphs 2008; Romero-Trillo 2008; Andersen 2011; Rühlemann 2011; Jucker 2013; Aijmer and Rühlemann 2015; Taavitsainen and Jucker 2015; Jucker, Schneider and Bublitz 2018). It is worth mentioning that the growing interest in the assets of CP has led to the launching of a journal in

2017 specifically created to cover investigation into this discpline: *Corpus Pragmatics (International Journal of Corpus Linguistics and Pragmatics)*.

In all, Corpus Pragmatics consists of the application of methodological procedures pertaining to Corpus Linguistics and centring on the compilation of closely connected texts sharing a set of *a priori* defined criteria for a subsequent pragmatic type of study. It has clearly become feasible, fashionable and beneficial from the availability of open, large and specialised corpora and tools in the digital era to proceed to all kinds of analyses (Culpeper and Gillings 2019). The emergence of such a discipline finds its rationale in a merge of methods, in that "corpus pragmatics integrates the qualitative methodology typical of pragmatics with the quantitative methodology predominant in corpus linguistics" (Rühlemann and Clancy 2018: 241). Figure 2.3 shows a graph in which Clancy and O'Keeffe (2019: 48) correlate the form-to-function approach, typically associated to Corpus Linguistics, and the function-to-form approach, which pragmatic studies have traditionally followed. Both directions are reunited in the concept of Corpus Pragmatics.

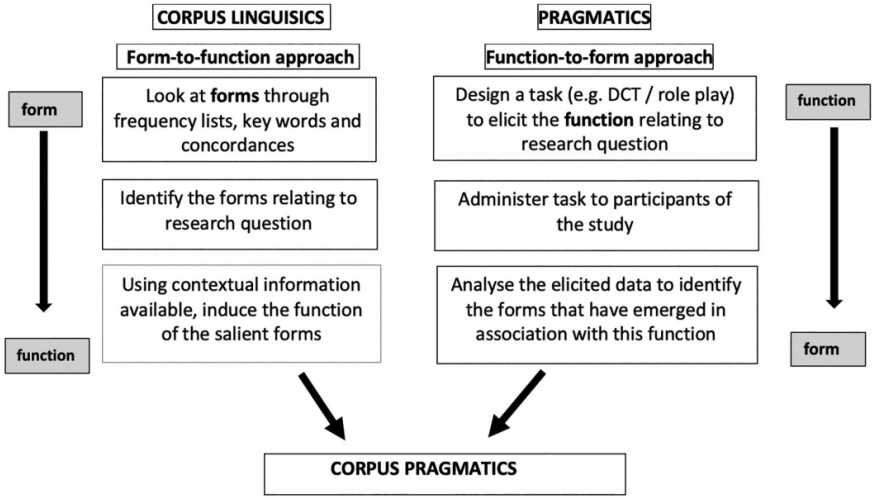


FIGURE 2.3. Form-to-function and function-to-form approaches in Corpus Pragmatics (from Clancy and O'Keeffe 2019).

Lastly, **Discourse Pragmatics** (Kasper 2006; Östman and Virtanen 2011; Schneider and Barron 2014) is also related to the study to be presented in this PhD thesis. If the main difference was methodology in the previous case, the heart of the divergence between discourse and pragmatics seems to be "the relative length and complexity of the units of analysis" (García-Conejos Blitvich and Sifianou 2019: 92). Hence, the melting of these two disciplines enables to consider pragmatic forces and intents beyond isolated utterances and encompassing communicative acts, which do not have a predetermined unit and can extend along full paragraphs. On the one side, analyses carried out within the scope of discourse pragmatics may be understood from a top-down approach, where departing from a pragmatic intent, salient instantiations of the utterances employed are observed and categorised. On the other, it can be interpreted as a bottom-up approach, where pragmatics is inserted in the complex level of the discourse, which "typically require larger stretches of text or conversation, whereas for pragmatics this is not necessarily the case" (Östman and Virtanen 2011: 282). For the pragmatic analysis of digital texts, both approaches will be followed, insofar as correlations between the

pragmatic strategies and their prototypical realisations will be recurrently offered, and the frequency and use of pragmatic strategies will allow to account for a bigger picture of the communicative goals of a specific kind of discourse, in this case, the digital scientific academic discourse.

Traditional pragmatic theories

The goal of this part is not to provide an extensive review of pragmatic frameworks proposed by different authors and approaches over time, or else their advantages and possible limitations. In contrast, I intend to highlight interesting ideas and tenets that have helped the discipline to evolve until what pragmatics is nowadays, and which can be reutilised in updated strands of research, in this case, involving digital corpora and online communication. Although traditional pragmatic theories were mostly based on written paper-format texts and genres, and generally accounted for both formal and informal communication, I believe it is worth unveiling their functioning online in much more situated contexts, which can eventually be replicable to other contexts. Consequently, the approaches introduced and theoretically explored below should be adapted, revisited or contested in view of the technological affordances which trigger new scenarios and possibilities for communication online and, which in this study are entrenched in the production of scpecialised discourse and scholarly and scientific scenarios.

Speech Act Theory

The first of these approaches is Speech Act Theory (SAT), whose inception can be traced back to Austin's work *How to Do Things with Words* (1962). The clear-cut identification of different sentence types, such as declaratives, interrogatives and imperatives meant a point of departure for the further exploration of the speakers'[4] true intent when making an utterance. Accordingly, Austin already made a distinction into different types of pragmatic force, not directly dependent on the sentence type employed, but focusing on the ultimate purpose speakers wish to be convey. The use of performative verbs could be helpful to identify and understand the interlocutor's message in a straightforward way, but alternative manners of conveying the speaker's intention needed to be acknowledged, as at least as frequent as the former ones. Types of pragmatic force comprise then the 'locutionary force', the literal meaning of an utterance; the 'illocutionary force', what the utterance counts as doing, and the 'perlocutionary force', the effect the utterance has (Grundy 1995: 74). In other words, locution implies what is uttered or written, illocution involves what the locution is done for, and perlocution refers to what happens as a result of the other former two.

[4] Pragmatic approaches such as Speech Act Theory usually refer to the binomial speaker-hearer when their tenets are explained and exemplified, insofar as communicative encounters are more frequently and easily performed in everyday face-to-face situations. Yet, for the purposes of this dissertation, the term 'writer' equals 'speaker' and 'producer' hereinafter, as much as 'reader' equals 'hearer' and 'receiver', since the focus is on the communicative relationship between writers and readers online, and how writers convey a certain type and degree of pragmatic meaning in their utterances.

From a strictly linguistic point of view, the illocutionary act has been established over time as the main unit for pragmatic analysis, as it shows a greater degree of linguistic variability in a number of fundamental factors to transmit a pragmatic force, such as the context of the communicative situation, the author's individual discursive practices or the level of closeness in the relationship between sender and recipient.

Searle focused on developing the meaning and potential of the illocutionary force and, by referring to a more fine-grained classification than Austin's, he introduced the term *speech act* as a working unit to identify different types of illocution, which were not mandatorily mutually exclusive but potentially combinable depending on the context and author's goals. These categories were explained as follows:

> Assertives: they commit a speaker to the truth of the proposition
>
> Directives: they cause the hearer to take a particular action
>
> Commissives: they commit a speaker to some future action
>
> Expressives: they express the speaker's attitudes and emotions towards the proposition
>
> Declaratives: they change the reality in accord with the proposition of the declaration
>
> (Adapted from Searle 1976)

Speech acts convey the illocutionary force of an utterance by indicating the speakers' communicative intention at one point in the interaction and by enabling multiple paths to convey that intention. Therefore, "speech act theory advances the fundamental claim that speech is a form of action rather than a device for describing the world" (Collavin 2011: 373). What we need to wonder is whether the notion of speech act is limited and incomplete as regards digitaly-mediated contexts, where interaction presents peculiar characteristics dependent on the medium and on users' characteristics that differ from physical encounters. Later in Subsection 2.2.2, I take back the concept of speech acts and a propose a brief review of the constraints and gaps that should be revised for the study of digital discourse.

Relevance Theory

Traditionally, pragmatics has also looked at the inferential component of utterances, which is difficult to measure or predict in any given communicative exchange. As Yus (2018: 268) explains, it is normally admitted that "communication entails (a bit of) coding (whose literal meaning would be studied by semantics) and (a great deal of) inferring (with the aid of contextualisation), which is the main scope of pragmatic research".

Relevance Theory stems from one of the four conversational maxims reflected in Grice's Cooperative Principle (1975): the maxims of quality, quantity, manner and relation. This last one, turned into the principle of relevance, is the main tenet of RT, by which "[a]n utterance U is relevant to a speech situation if U can be interpreted as contributing to the conversational goal(s) of speaker or hearer" (Leech 1983: 94). The linguistic meaning of such utterances to be decoded by hearers and readers is clearly an input for their comprehension of a given speech situation,

although not the only one. A presumption of optimal relevance in the speaker's meaning is always hypothesised, and the hearer or reader should decode the linguistic meaning of such utterances following a path of least effort, if the input from the linguistic decodification is self-evident enough. If not, they should implicitly complement it until the resulting interpretation meets their expectation of relevance (Sperber and Wilson 1986).

Recipients of the message should then go through an internal inference process leading to a possible hidden or implicit interpretation of the message uttered by the speaker (Wilson and Sperber 2002). This automatic process is ruled, according to RT, by the **expectations of relevance** raised by utterances to guide their recipients which convey sufficient **precision and predictability**, so that the hearer or the reader of the message can be successfully oriented towards the speaker's true intentional meaning. Allot (2010) emphasises the good or even optimal pay-off in relevant information to compensate for the cost of processing by the hearer or reader.

> Relevance is not just an all-or-none matter but a matter of degree. There are potentially relevant inputs all around us, but we cannot attend to them all. What makes an input worth picking out from the mass of competing stimuli is not just that it is relevant, but that it is MORE relevant than any alternative input available to us at that time.
>
> (Wilson and Sperber 2002: 609)

The search of relevance is inherent to human cognition and utterances raise expectations of relevance based on the input produced by a speaker. Instead of purely based on convention or cooperation, as Grice (1975) tried to demonstrate, the meaning of the utterance will be relevant to the recipient when the **cognitive effect yielded is positive** or even the most positive one. If the cognitive effect of interpreting a message is positive, this will mean the effort made by the recipient of that message has been rewarded. Cognitive effects mainly help in three different ways: "(1) to support and strengthen an existing assumption; (2) to contradict and rule out an existing assumption; [and] (3) to interact inferentially with existing assumptions to produce a new conclusion" (Allot 2010: 29).

Hence, the core of RT lies in the understanding of a speaker's intention by inferring what the speaker intended to convey from what she utters and under what circumstances. This model, labelled as **ostensive-inferential communication**, poses another distinction in the speaker's intentions when communication takes place: the speaker may have either an informative intention or a communicative one, referring, respectively, to the "intention to inform an audience of something" and to "the intention to inform the audience of one's informative intention" (Wilson and Sperber 2002: 611).

To this respect, the study of digital genres can be coherently linked to pragmatic analyses, in an attempt to find the implied meanings behind the utterances that take place in online communicative encounters among users. By following a digital path, users test their interpretive hypotheses to access the relevant meaning until their expectations of relevance are fulfilled. Both the locutionary and the illocutionary force of the utterances are key to understand the writer's ultimate intention in a likely non-face-to-face, asynchronous environment. In the context of digital scientific communication, this also involves how to consciously address one's message towards

potential audiences, whether expert in the topic of the message or not, so that they may get the grasp of the intended meaning.

Accordingly, digital texts need to be conveyed in a balanced way in order to cater for the potential informational and contextual gaps the reader may encounter when dealing with them. In that pursuit, academic and professional online texts should count on a number of strategies that actually facilitate the comprehension of the author's true meaning, even when such a meaning may be conveyed through indirect mechanisms. As long as this is assured, the reader will find that the effort made for the pragmatic decodification of the message is worthy, and that the most relevant interpretation of the author's utterance actually approaches the intended original meaning.

Altogether, Grice's Cooperative Principle, Speech Act Theory and Relevance Theory can be taken as models geared towards the comprehension of the cognitive processes that rule communication, as well as the pragmatic and linguistic resources that encapsulate and instantiate them. Thus, the optimal decodification of a received message can be linked with the strategies and specific language usage that enable such mutual processing and agreement between speaker and hearer. In the digital context, where there exists an ample variability of ways to get across one's true communicative intent, analysing the pragmatic and linguistic specific realisations of those meanings should be helpful to ease the writers' codification of the messages and their processing on the part of the readers.

2.2.2. Reconceptualisation of pragmatic concepts

Two main pragmatic concepts are revisited –the speech act and the concept of face– to provide a more updated and complete notion of their meanings in light of the digital medium. Specifically, speech acts will be connected to digital genres and media to display the inefficacy of the term when capturing the fluidity of codes, structures and contents of the World Wide Web. Digital face will be discussed concerning issues of identity, visibility and reputability online that concern current academic communication very much.

From speech act to pragmatic strategy

To start with, the pragmatic analysis of digital texts in which Speech Act Theory is applied demands taking decisions as regards the unit of analysis. It may be the case that a speech act is not the most suitable unit to explore pragmatic force and that a more sophisticated entity (or elaborated construction) should be favoured to work out the likely problems raised by the limitations of speech acts. Such a conundrum is originated in the fact that speech acts fit the scope of fixed isolated written communicative situations, but slip when applied to more dynamic and unstable communicative events. Hence, a new category of identification and analysis of pragmatic intent may be created to encompass the new realities and possibilities of 21st century communication.

Some other labels have been long and also recently proposed to rename the speech act, but they fail to explain in detail how they can overcome some of the inaccuracies that were fundamental in the critique to Speech Act Theory (SAT). Mey (1993, 2018) suggests 'pragmatic act' to discard the word 'speech', thus comprising activities beyond the constraints of speech and trying to incorporate in the term contextual elements required for an efficient communicative event. As a further example, Jucker and Dürscheid (2012) argue that the concepts of 'text' and 'utterance' as we have traditionally understood them are actually hindering the complex notions of what they can really get to be. Instead, they propose 'communicative act' as a flexible unit, larger or smaller, which has also room for non-verbal messages, which are taking over in many of the current digital contexts –such as in social networks, online tutorials or video-gaming narratives. In this PhD thesis, the notion of 'pragmatic strategy' is chosen and employed as an efficient tool to identify pragmatic forces, both locutionary and illocutionary, and to analyse texts, in this case, of a digital nature. A full conceptualisation of 'pragmatic strategies' will be proposed in Section 2.3, but here I establish some connections with notions in pragmatic research.

Pragmatic strategies may be ecompassed in Searle's five outstanding categories for Speech Acts, but are not limited to them. Therefore, their scope is broader and they can be gathered together around the speakers' fundamental communicative intent. They many times overlap in their function and even in their linguistic structure, partly caused by the hybrid and fluid type of discourse that predominates in a great share of the Internet. A further conundrum is posed by the physical boundaries of the pragmatic strategies, inasmuch as it happens with speech acts. To this regard, utterance-based analyses might not be sufficient to capture the complexity and density of intent and content carried by digital texts. A rather flexible approach would help to perceive the pragmatic force conveyed by the writer's decisions on the text, be them purely linguistic or semiotic and multimodal. To overcome the potential subjectivity around the limits of the units of pragmatic analysis, a combination of pragmatic forces should be observed. First, a broader pragmatic scope can aid to pinpoint the writer's main communicative purpose. These scopes could include giving information, providing descriptions, establishing interactions, arguing for personal subjective opinions, making evaluative positive contributions, complaining or denouncing a matter or publicising anything. Within each category, performative strategies could be indicated for encapsulating the specific *resources* used by writers and readers to accomplish their communicative intents. Hence, an interplay between the pragmatics of *discourse* and the pragmatics of *utterances* (or something close to it) may be achieved.

Subsequently, it may seem illogical to look for a top-down approach for the analysis offering a fixed deterministic set of pragmatic strategies applicable to every text, in a similar way as Speech Act Theory attempted to do, regardless of the situational context and the participants' characteristics. Instead, a bottom-up approach considering factors that influence the construction of the texts, and the communication through them, can prove more suitable for situated pragmatic studies. There has been a lot of research, especially related to the characterisation of ELF, covering so-called communicative or pragmatic strategies as recurrently used in spoken texts and oral encounters, both academic and informal, as well as monologic and dialogic (cf. Björkman 2011, 2014; De Bartolo 2014; Vettorel 2018; Kaur 2022). However, not many analyses of pragmatic strategies in written texts and genres are available to present day, especially within the

academic world and in the digital context. This creates a further challenge in the consistent identification and interpretation of the pragmatic strategies.

Acknowledging the rationale of the text, the medium(s) in which it is situated (digital, paper-based, oral), the nature and level of potential interaction, and the stylistic character of the discourse (for example an informal everyday exchange as opposed to a professional discipline-related scenario) can contribute to bridging the gaps that traditional classifications of speech acts have consistently failed to solve in some way or another. From that starting point, pragmatic strategies can be expected to be replicable in contexts whose variables coincide or partly differ from the one analysed, and patterns and tendencies can be identified. The lack of a standard widespread categorisation of those pragmatic strategies can be thus compensated with an accurate picture of context-dependent situations in which understanding pragmatics is quintessential for the exploitation of the text possibilities and their communicative resources.

Digital face

Brown and Levinson (1987: 61), the main representatives of Politeness Theory, define the concept of face, as "the public self-image that every member wants to claim for himself". This is taken by them as a universal concept in pragmatics that can be split into two different aspects: negative face and positive face. Respectively, they refer to the wants of one's actions not be stopped by others, and one's wants to be shared and desired by some others. Therefore, the former points at the freedom of intention and action away from imposition, and the latter is concerned with the approval and appreciation of one's image.

As interactants' face is inevitably managed in communicative encounters, a whole framework was designed to try to explain how individual actions by those interactants contribute to improving or deteriorating not only one's own face, but also the face of other participants. Therefore, opposite, yet interdependent, concepts were developed. Goffman (1967) divided the intentions in an interaction into those **saving face** and those **losing face**, understanding the general concept of politeness as the way to approach one's sociological face. Brown and Levinson (1987) advocated, based on this initial distinction, that some strategies are aimed at redressing and mitigating one's image in front of others, whereas other strategies attempt to affront and aggravate someone's public face. These two ways of treating one's and others' face may result in two different sets of politeness pragmatic strategies: face-saving acts (FSAs) and face-threatening acts (FTAs), which encourage and discourage, respectively, relationships of solidarity and respect among the interactants in a communicative exchange.

As politeness is negotiated in interaction, both speakers and hearers may exert a strong influence on their social persona, but more importantly on that of others. The belief that there is a mutual cooperative concern to maintain everyone's face can be confirmed or contested, depending, unavoidably, on the situational context of the communicative event and on the intent of the participants. The digital environment brings about a number of contextual variables and factors that need reconsideration to observe how they affect and shape the traditional notion of face. To name a few, these include the blurry distinction between speakers and hearers or writers and readers; the potentiality to remain anonymous in a non-face-to-face communicative situation;

a situational cline from asynchronous to synchronous communication; and a combination of codes and systems, complementary to the textual or linguistic one. These factors render conventions and registers with different, more diverse pragmatic and stylistic choices from traditional communicative settings.

Accordingly, the notion of **digital face** can be hardly explored in general terms, as is greatly linked to users' digital identity, and determined by their involvement in a communicative encounter and the development of potential interactions. Therefore, specific cues about the context, the genre and the participants should be gathered to understand the negotiation of users' social persona when they communicate online. For the purpose of this PhD thesis, the notion of digital face will be treated as the component that scientists and researchers can handle and maximise in digital communication in order to render a positive digital identity as users and improve their visibility as professionals. As two different types of digital practices are chosen to study their communicative and pragmatic choices –research project websites (RPWs) and Twitter for Research Dissemination Purposes (TRDP)–, researchers' face will be differently construed attending to the affordances and conventions characterising those practices.

All in all, the analysis of the pragmatic strategies scientists recurrently employ will shed light on the ways they maintain a positive face in digital academic settings, and project a self-image that intends to reward them in terms of professional credibility and reputability. The level of interaction is hypothesised to be higher in Twitter accounts than in the project websites, due to the participatory framework of this social medium, which allows for explicit and implicit interaction among users by writing to each other or just by retweeting or linking others' messages. However, researchers' face will also greatly depend on the projection they make of themselves in project websites, where the audience has the option of interacting with them, but tends not to explicitly participate in the communicative encounter. As a consequence, they will possibly make use of other politeness strategies to negotiate the mitigation and approval of their digital social persona in front of a heterogeneous audience.

Maintaining a positive consistent face in digital interactions may be worthy for academics and professionals, as it may cause an intangible effect on the image that their audience –in many cases unknown– have of them. It may also foster interpersonal connections with research-related users, new networking possibilities or the discovery of other funding bodies and beneficiaries. In a scientific academic context such as the one of research groups sharing international projects, saving researchers' digital face will directly contribute to increasing their online presence and their potential impact. In the end, it is in the digital medium where the communication, dissemination and exploitation of the project (following the tenets summarised in Table 1.1) are disclosed, pointing out research results and the advances for society, and rendering researchers' involvement in the project visible. Thus, analysing users' digital identity from the notion of face may enable us to explore the effects this may have at a professional and academic level, still bearing in mind that digital practices are not systematically valued by the academic local and international systems.

2.2.3. Digital Pragmatics

This section pivots around how the field of pragmatics can contribute to the analysis and understanding of communication occurring online. Different scholars advocate for different terms to coin this emerging field, such as Pragmatics of Computer-Mediated Communication (Herring, Stein and Virtanen 2013) or Internet Pragmatics (Yus 2018; Jucker 2019), for which a specific journal has also been launched. However, the label *Digital Pragmatics* has been chosen to refer to the pragmatic phenomena occurring in digital contexts, regardless of the device or format that enable them –computer– and trying to be more specific about the platform or medium where they are hosted –within the Internet. Generally speaking, though, this specific developing discipline is essentially about "how the human user is actively handling the particular communicative resources provided by the internet" (Mey 2018: 18).

Actually, the Internet plays an interesting role in the understanding of human communication, particularly from a pragmatic standpoint. Xie and Yus (2018) argue that simultaneously 'internet makes no difference', since interpretations can be constructed from contextual hints as would happen in physical settings, and 'internet makes all the difference', since those hints in digital communication are probably fewer and, so, contextualisation may be harder. This means that, despite encountering a cues-filtered communicative situation, the adaptations to the characteristics of the medium and the digital text imply readjusting the typical cues we are used to negotiate in face-to-face communication and insert, instead, other digital-native contextual features.

If we understand that pragmatics is first enabled and pursued by the speaker or writer, and that the digital text is the object that allows and receives that pragmatic intent, then using the Internet inevitably necessitates the mutual adaptation of the 'users' and the 'used' (Mey 2018) for a successful process and, ultimately, communication. This dichotomy, however, entails the involvement of a large number of complex entities that are interconnected and hold different kinds of relationships between each other –at least writers, readers, texts and contexts.

The pragmatic force in any digital text is likely to be complemented by the multiple affordances of the digital genres and media, among which the coexistence of **semiotic and multimodal** modes and languages other than the verbal one stands out. The addition of elements altering the layout and the organisation of the text and the inclusion of audios, videos and pictures build further meanings on the verbal basis and influence the relationship between all the elements contributing to the digital communicative event. The pragmatic meaning the writer wishes to transmit is, more often than not, subtle, and gives way to the reader's interpretations, possibly leading to missing part of the meaning when partially or wrongly interpreted. Therefore, multimodal elements will also be explored in the analysis of pragmatic strategies, as components –in-between the user and the used– affecting the text, which is considered at all effects as the unit of analysis in this PhD thesis. Yet, non-verbal parameters cannot be left out because of the ways they amplify and modify the search for the relevant meaning of those very same texts.

Table 2.4 below displays the levels to which pragmatic analysis can be applied in the search for the systematisation of the digital environment (Xie and Yus 2018). In this PhD thesis, Layer 1 will be approached from a theoretical and reflective perspective of the specific type of communication to be analysed; Layers 2-5 will be covered by coming up with salient pragmatic

strategies of the digital academic scientific discourse and their discursive realisations; and Layer 6 will be tentatively taken into account from other perspectives that encompass multimodal and ethnographic approaches under the belief that these analyses will provide information about the effects made by extra-textual factors, though connected to the text.

Layer 1	User and contextual constraints
Layer 2	User to user by means of discourse
Layer 3	User to user interaction
Layer 4	User to audience
Layer 5	User in a group of users
Layer 6	User and non-intended no-propositional effects

TABLE 2.4. Layers for the contribution of pragmatics to digital communication (from Xie and Yus 2018).

Delving into a pragmatic analysis of digital texts will report positive benefits in both the appropriate encoding and decoding of the messages when communicating online –compensating for the probable lack of cues for the audience and maximising the features afforded by the genre and medium where the message is framed. Furthermore, analysing pragmatic strategies will aid us in observing the functioning of the textual code with other codes gaining centrality in the production of digital texts; identifying instances of web-generated digital genres with clear-cut communicative purposes despite the dynamicity and fluidity within the Internet; and mapping potential rhetorical structures that may help build coherent texts on the web and, consequently, ease the processing of the text in terms of relevance and intent.

A thorough pragmatic analysis of the discursive practices typically happening in digital contexts can also contribute to understanding bigger and smaller entities holding connections with the pragmatics of the messages which interlocutors publish and consume online. In particular, links can be found with approaches and disciplines that have been focusing on the conventional paper-based text and which need further reconsideration in the digital environment as for their terminology, boundaries and scopes.

First, unravelling the users' pragmatic purposes in a specific type of communication may be fruitful to discover the overall communicative purposes they wish to accomplish. In such a vast, infinite, flexible, ephemeral scenario like the one offered by the Internet, it is fairly difficult to establish boundaries that encapsulate the beginning and end of a text, the extent to which textual and discursive variability can be measured, and the force users can exert to modify the typical discursive practices associated with those texts. These concerns, which are the object of traditional **genre analysis** (Bhatia 2004; Swales 2004), may be seen from another different perspective by deciphering individual pragmatic strategies. By highlighting the main pragmatic intent of a text or a group of texts, it may be possible to reject related texts with different communicative purposes, and establish some common ground in the pursue of the identification of specific web-generated digital genres.

Moreover, it is complicated to identify and understand the primary communicative purpose of the different genres, increasingly characterised by their fluidity and hybridity and whose **rhetorical structure** becomes truly blurred on the net. Analysing the texts from a pragmatic perspective may give insights into the contextual factors shaping the text and into the

writers' intents in terms of communication from the level of the phrase, the clause, the sentence and even bigger units. Taking this bottom-up approach may allow making informed generalisations based on pragmatic and linguistic analysis that can contribute to establishing primary and secondary overall communicative purposes of the texts. What is more, flexible rhetorical structures capturing the reality of online text production and communication may be more easily observed following a pragmatic analysis where the different strategies point at potential sections or moves in flexible but repeated patterns.

In this section, I have tried to review conventional approaches to the study of pragmatics and interactants' intentions. Insights from seminal frameworks such as Speech Act Theory, Relevance Theory and Politeness Theory have been presented to establish connections about how they may be useful for the study of scholarly and professional practices within contexts of digital scientific communication. Next, I devote some space to the analytical concept of 'pragmatic strategies', which is the one that I will use in my analysis of research project websites and Twitter for Research Dissemination Purposes in Chapter 5.

2.3. The conceptualisation of pragmatic strategies

The notion of 'pragmatic strategy' is essential to the study of the type of research project communication presented in this PhD thesis, since it constitutes the analytical tool that enables to look into researchers' communicative intentions in digital environments. Consequently, a fine-grained definition is deemed necessary of what pragmatic strategies entail, how they can be identified and classified in a text, and why they are deployed by users. To fill this gap, the present section intends to offer a thorough explanation of the features characterising pragmatic strategies, the differences between them and the opportunities that their understanding offers. The usefulness of this abstract category will be put forward for analyses of online academic and scientific discourses in particular, and digital communication in general. In that pursuit, I seek to conceptualise it as a novel notion to deal with pragmatic research that integrates both theoretical and methodological considerations.

However, the notion of 'strategy', often preceded by the adjective 'pragmatic', has been long employed to designate the theoretical and analytical perspectives underlying discursive and linguistic studies of many kinds. Although the connections that I designate below may not seem at once fully applicable to the field of pragmatics, I think it is useful to observe and compare how other research fields have developed and applied the notion of 'strategy' in their analyses.

One of those research contexts involves the field of English as a Lingua Franca (ELF). Here it is utilised to understand how speakers of English with different sociocultural and linguistic backgrounds communicate with each other and manage the resources to interact and negotiate the meanings they create when they participate in communicative encounters (e.g. Seidlhofer 2004, 2011; Björkman 2011, 2014; Vettorel 2018, 2019). These communication strategies are normally associated with the pragmatic competence of the interactants to observe how they deal with the

use of a language that is not equally shared by them. Thus, the strategies in an ELF context tend to be approached from the standpoint of their teachability, identifying overriding goals and individual methods for their instruction, and also tackling the improvement of teacher training (Dörnyei 1995; Seidlhofer 2004; Choi and Liu 2020). The term works as a sort of umbrella notion referring to the cognitive processes and practical techniques interactants can resort to in order to overcome the possible transfer from their L1 and ensure successful intelligibility. Strategies encompass competences that English speakers can develop and improve (i.e. linguistic, *pragmatic*, sociocultural) and skills that tackle specific communicative purposes and gaps as ELF interactions unfold (i.e. accommodation skills; turn-taking strategies). The definition of pragmatic strategy within this view clearly differs from the one presented in this PhD thesis, as the focus, as I intend to show below, is not on enhancing interactants' level of communicative performance when using English as an instrumental language and on analysing the intercultural and linguistic phenomena that allow speakers to interact in effective ways.

The concept of 'strategy' has also proliferated in other research areas, such as rhetorical analysis applied to different disciplines like arbitration and law (Trosborg 2008), finance and business (Crawford Camiciottoli 2013) and academia and science (Załęska and Okulska 2016). In the field of English for Research Publication Purposes (ERPP), strategies have also been studied as regards academic writing policies. Curry and Lillis (2014) draw on de Certeau's (1984) proposal of strategies and tactics to explore the ways scholars accomplish their goals and comply with policy competing demands and articulations at transnational, national and institutional scales. Thus, they employ the term strategies to refer to the mechanisms scholars activate when their objectives align with legitimised ones, as opposed to tactics, which are effected when there is a conflict between the objectives mentioned before.

Strategies have also been central to Translation Studies, in trying to describe and map out the resources that can be maximised in translation from the source text to the target text (e.g. Krings 1986; Séguinot 1989; Venuti 1998; Jääskeläinen 2005). A commonly cited definition of translation strategies is that of Lörscher (1991: 8), who regards them as "a potentially conscious procedure for solving a problem faced in translating a text, or any segment of it.". Moreover, a dichotomy is often established between global and local strategies. Bell (1998) connects it with their application to entire texts or text segments, respectively, whereas Jääskeläinen (2005) considers global strategies for general modes of action and principles and local ones for concrete actions in relation to the problems and decisions the translator needs to face. As is easily observed, the TS approach to strategies involves text manipulation and the systematic application of rules to be successful. This notion is, therefore, fundamentally problem-centred and does not come to represent users' intentions in communicative situations, but rather how they arrive at the completion of a task. To this regard, strategies are very often referred to as 'techniques' as well, this term further revealing their merely instrumental character within this field.

The views presented above of how strategies are conceived to analyse communication and how they all have a pragmatic component are considered to prove that the definition of *pragmatic strategies* that I contend in this PhD thesis is envisioned and applied in a different way. In my view, pragmatic strategies are rather regarded as the visible textual proof of users' utmost intentions, in varying degrees of explicitness, in the completion of a communicative purpose.

They do not consist of overgeneral categories to approach users' rhetorical actions; they do not serve to overcome hurdles in communication; and they do not pursue the solution of a communicative situation or task. By contrast, they entail the projection of the writer's intention through textual means in ways that will be understood by readers within a specific context of production. As inferred from Section 2.1, 'textual' is taken here in its broadest sense, going beyond the purely linguistic and including other semiotic modes like the visual. Thus, pragmatic strategies are better understood within the contextual variables and co-textual choices that surround them, as these are essential in how the strategies are appropriately encoded by the author and successfully received by users.

As will be carefully discussed in Chapter 5, where the data-driven taxonomy of pragmatic strategies that I have designed to analyse the research project websites and Twitter accounts is applied and justified, pragmatic strategies are informed by the seminal literature in the field of pragmatics and in other closely related disciplines and frameworks that may find common ground with the former. These comprise, for instance, Digital Discourse Analysis, Computer-Mediated Communication, Genre Studies and Metadiscourse. Put differently, stemming from an encompassing conceptualisation of strategies that fundamentally rests on pragmatic approaches at its core, the identification and wording of situated pragmatic strategies that emerge to analyse users' communicative intents in a particular text or genre may, and probably should, also be supported by previous theoretical accounts exploring distinctive communicative events and their contexts of situation.

Relying on Halliday's (1978: 10) understanding of 'context of situation', this method of exploring pragmatic strategies is beneficial in that it depicts "how a text relates to the social processes within which it is located". These processes can be broken down in three components, namely the principal social activity taking place, the people involved in it, together with their evolving interrelationship, and the roles and functions of the text within this social activity, measured in Systemic Functional Linguistics (SFL) as 'field', 'tenor' and 'mode'. Bearing in mind the communicative event, in Halliday's broad sense, will also help provide congruity and harmony to any analysis of pragmatic strategies. Such an analysis may better sketch the deployment and the usage of those pragmatic strategies, as embedded in the processes of sending and receiving which interactants activate for a set of clear-cut various purposes.

At the same time, the exploration of pragmatic strategies in specific contexts of situation and in diverse texts and genres inevitably leads to particularise the set of strategies interactants make use of. This particularisation may cast light onto innovative discursive practices resulting from users' developing discursive choices, as well as into the role of textual and medium affordances surrounding these practices. This implies that a situated analysis based on close reading the objects under scrutiny may well inform the range of strategies distinctive of a communicative exchange, complementing and expanding already established theoretical insights. As a result, the study of pragmatic strategies is about a back-and-forth way of proceeding, methodologically speaking, which is contingent both upon the textual realities and the communicative events that can be identified and upon the regular conventions and traditional analyses that have been developed to tackle the understanding of the former. It is my belief that this procedure turns out beneficial to characterise the scope and range of the strategies at use in

specific communicative environments, as well as to delineate their pragmatic force and discursive potential not in isolation, but as encapsulated in specific fields, tenors and modes, as referred to above.

Interesting communicative scenarios in which to look at pragmatic strategies may be associated with their occurrence in digital environments, where familiar, reconfigured and emergent genres spring and coexist (Herring 2013), as depicted in Table 2.2. This means that there are endless textual instantiations online that could be placed in a cline where they draw on offline counterparts at one end and propose unprecedented characteristics and conventions for web-native texts at the other. Consequently, generic innovation and hybridity is fostered in digital communication, and interdiscursivity is a widespread phenomenon which "refers to more innovative attempts to create various forms of hybrid and relatively novel constructs by appropriating or exploiting established conventions or resources associated with other genres and practices" (Bhatia 2010: 35). Even when these insights mainly emerge from Genre Theory, and its necessary reconfiguration for the digital world, they cannot be overlooked for pragmatic analysis and the comprehension of how users leverage digital genres for their own goals and needs. Therefore, a plethora of pragmatic strategies may arise to meet new communicative needs by adapting and adopting the affordances of digital texts and genres, and so analysis of users' practices and intentions in diverse contexts of situation, such as international professional communication, should be brought to the fore.

Taking into consideration all the aspects pinned down so far, the conceptualisation of pragmatic strategies proposed below purports to acknowledge their operationalisation and flexibility as a unit of analysis which incorporates conventional pragmatic methods into new communicative practices and trends. Relatedly, the effort to categorise a new analytical tool needs to be stressed in connection with the predominance and ubiquity of digital environments in our communicative exchanges. Thus, the proposal of pragmatic strategies to analyse online settings, as in the case of RPWs and TRDP in this PhD thesis, recognises the central role of the digital medium for the elaboration and negotiation of pragmatic meaning among users, and avoids applying existing pragmatic approaches and theories that may not fully account for the significance of digital affordances and constraints.

As follows, a definition of the concept of pragmatic strategies for the present study is highlighted, distinguishing their main working features. Next, pragmatic notions such as 'utterance' and 'speech act' –discussed in Subsection 2.2.1– are explored to see the connections and implications that have been drawn in the conceptualisation of the strategies. The influence of Genre Theory in nuancing their meaning and in underlining the necessity of such a situated category is also evinced. The consideration of communicative goals is enhanced as mutual to pragmatic and generic approaches, and the notion of 'move' is put forward to introduce more meaningful (dis)similarities between both approaches. Finally, a detailed explanation of how pragmatic strategies operate and can be put into practice is provided, highlighting their nature, as well as problematising methodological issues such as the grouping of strategies in bigger units and the potential overlapping of their force.

2.3.1. Defining pragmatic strategies

As I see it, a pragmatic strategy is a functional unit of analysis that enables to identify and uncover the context-sensitive intentions of interactants in a given communicative event. Pragmatic strategies are determined by three aspects that are necessarily intertwined (Figure 2.4) and that are crucial in the development and understanding of an interaction, in this case, of a digital nature:

> 1) **Processes**, understood as the factual relationships existing between the writers, the texts and the readers involved in a communicative act. This entails that processes are interpersonal, since they involve all participants interacting through the material recipient of the text; textual, since they are not entirely abstract or mental, but captured in physical realities; and contextual, since they are dependent on the circumstances that mediate and fence the communicative act in particular dynamics, conventions and roles.
>
> 2) **Intentions**, regarded as the subjective, overarching communicative purposes that users seek to achieve when initiating communication. A certain pragmatic force is conferred to any communicative exchange, disclosing interactants' intentions. The pursuit to accomplish these intentions will lead users to express themselves in varying degrees of explicitness or implicitness, politeness or impoliteness, truth or fallacy.
>
> 3) **Practices**, considered to be the recurrent combinations interactants resort to as a result of both the processes that enable and constrain a communicative event and the intentions that are conveyed through textual instantiations to comply with one's desired communicative purposes. These practices are analysed according to users' discursive choices and how they are affected by the medium in which they are displayed.

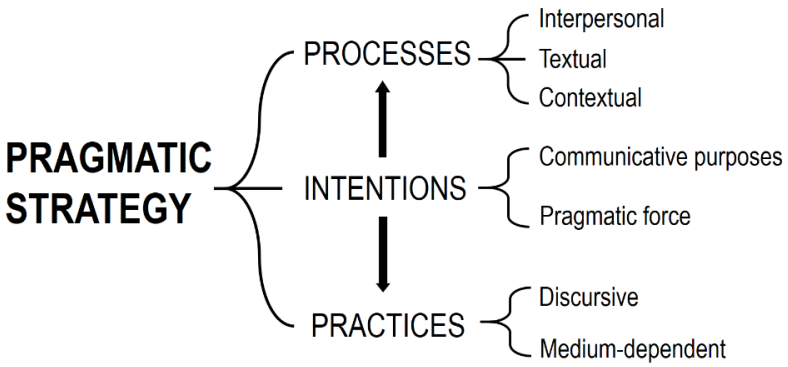


FIGURE 2.4. Components intertwining in the conceptualisation of pragmatic strategies.

The medium is precisely key to the pragmatic analysis presented in this PhD thesis, and to any act of communication, since the textual conventions, generic instantiations and the negotiation of these two largely depend on whether an interaction happens offline, digitally, in oral exchanges, etc. Thus, the permanent evolution of the digital medium brings about communicative events that offer users manifold opportunities to interact with each other and to establish new discursive practices. Such interactions may be synchronous or asynchronous, monologic or dialogic, formal or informal, prioritising one mode or fully multimodal. The gradual

sophistication of the technical affordances enabled by digital settings pushes all these characteristics forward, with users likely unaware of how quickly the resources at their disposal are influencing the way communicative events are shaped and construed. As discussed in Section 2.1, firmly established technical affordances are common to any digital genre or medium, since they reside in the Internet architecture itself, i.e. scrolling down, publishing texts in audiovisual and verbal modes, inserting hyperlinks directing users to another site, etc. Yet, others rather depend on the digital setting framing a communicative encounter among users. Examples of medium-dependent features may comprise the option to reply to the published information, the act of liking what other people post, and live-streaming a video. These will be carefully explored in light of the objects of study in this PhD thesis, namely Research Project Websites (RPWs) and Twitter for Research Dissemination Purposes (TRDP) in Chapter 4 below.

Accordingly, users navigating online will deploy their intentions by taking advantage, more or less consciously, of those communicative and technical affordances. Their goals in consuming digital texts and interacting with other users are, therefore, framed within a set of properties that not only rely on the linguistic choices made by users, but also on the features of the digital setting where communication is taking place. This interplay tends to favour variability in the conveyance of users' intentions and, thus, to provide them with a broad range of tools and resources to be handled and combined in search for communicative effectiveness, and deployed in the arrangement of pragmatic strategies that purport to attain those desired intentions. In other words, the advent, growth and permanent development of the Web 2.0 has been sparking a complex picture of the structural and linguistic possibilities at users' disposal, since their countless combinations have resulted in

> the vast generic proliferation and dispersion that the Internet has undergone in the last two decades [that] has spawned an astounding number of specialized (hybrid) genres and sub-genres online, each one designed for a specific set of purposes, equipped with its very own set of formal and functional features. The increased granularity of Internet communication, which results from this digital evolution, has had considerable consequences for pragmatic research in the last decade.
>
> (Hoffmann 2017: 2)

In short, the notion of pragmatic strategy emerges as a theoretical and methodological asset to comprehend the complex intersection of processes, intentions and practices that users (un)consciously unfold when they communicate, specially online. At this point, I come to delve into well-established notions in the analysis of discourse and communication to observe how they may be interspersed with the conceptualisation of pragmatic strategy just provided.

2.3.2. Theoretical points of departure to understand pragmatic strategies

As has been previously explained, 'strategy' as a theoretical and analytical term has been long used for the investigation of discourse and communication in a plethora of disciplines and fields of study. One of them involves pragmatics, but lack of conformity in the definition and application of the notion seems to be easily observed. In order to account for my conceptualisation of

pragmatic strategy and its application to digital discursive practices and contexts of academic communication, I resort to some seminal concepts employed in conventional analysis within the field of pragmatics, and I point out to the reasons why pragmatic strategies as an analytical category may be associated with them, but go well beyond them. Thus, by unveiling what a pragmatic strategy is not, I hope to ease the understanding of its conceptualisation, and a better grasping of its scope and boundaries.

Utterances

Trends in pragmatic studies at the end of the 1960s implied the focus on utterance meaning and interpretation rather than on sentence or word meaning, which would be closer to a purely grammatical and semantic, literal meaning. This cognitive notion was a cornerstone in the seminal works of Austin (1962), in relation to the performative effect that utterances may have, and Grice (1975), in relation to the Cooperative Principle, the fulfilment or flouting of conversational maxims, and the resulting implicatures that arise for speakers and hearers when they are flouted. The desire to apply the concept of "utterances" to all sorts of communicative events and exchanges and make it effective and generalisable led to nuance its notion and try to further understand conventional and implied meanings. Based on Grice's work, Grundy (1995) established a division into utterance-token meaning and utterance-type meaning to classify implied meaning. In all, this pragmatic turn brought about a move towards the analysis of "unique historical events created by actual speakers to perform linguistic acts in actual situational contexts in order to accomplish specific goals" (Bublitz and Norrick 2011: 2).

Nevertheless, the focal point of current pragmatic analysis has conceivably changed from the utterance to other linguistic units or pragmatic features, as Culpeper and Gillings (2019) affirm. Provided that the meaning and decoding of utterances lies at the centre of the concept of the pragmatic strategy, there are two differentiating factors from the classical vision of 'utterance' that push 'pragmatic strategy' as the analytical term chosen in this PhD thesis, in line with Culpeper and Gillings' vision. The first one involves the **uniqueness of utterances** when enacted in a communicative situation and their context dependency, which cannot be overlooked to comprehend how interaction unfolds in a particular background in which interactants with specific characteristics and clear goals participate. Relatedly, analysing digital academic practices requires a more applied, and less philosophical, angle that may unveil the intentions of the users, rather than concentrate on conversational principles and the truthfulness of their contributions. It is interesting, though, to observe if and how implied meanings are conveyed and what users are expected to do to decode them. The second reason not to endorse 'utterance' as a suitable perspective for the pragmatic analysis of digital discourse lies on the fact that they were primarily conceived to tackle oral modes and face-to-face encounters. In that sense, the analysis of individual utterances as exchanged in turns by speakers and with clear beginnings and ends could not be exploited in **a context of screen-based, non-face-to-face communication**. Such a scenario, where academics and professionals communicate their research to 'users' in the broadest sense of the term, entails the creation, publication and negotiation of both monologic and dialogic

texts, where interactions have the potential of being bidirectional, but are not always fully dynamic and interactive.

Overall, 'utterances' constitute a formal unit that serves to separate texts and interactions into smaller pieces and that can be understood as the ideational content of a syntactic formulation. In that sense, they may be placed in between grammatical, semantic and pragmatic boundaries. The concept of pragmatic strategy goes beyond the rigid boundaries that can be identified for utterances, even when the strategy is ultimately instantiated at the lexico-grammatical and semantic levels. Rather, the pragmatic strategy is a fully functional category where these levels are entangled as part of the discursive construction with which they are deployed.

Speech Acts

Connected with the philosophical idea and analytical procedure of 'utterances', Speech Act Theory (SAT) emerged to account for speakers' direct and indirect intents, as disclosed in the previous section, where a more extensive account of the interests and concerns pragmatics has developed over time has been offered. SAT plays a leading part in the conceptualisation of pragmatic strategies under the assumption that Speech Act Theory "has been one of the most important pillars of pragmatic research" (Jucker 2018a: 7) and serves to conceptualise how utterances employed in interactions perform a particular action, and thus reveals users' various pragmatic intents.

Yet, shortcomings have also been pinpointed for Speech Act Theory and attempted to be overcome. Searle's best known taxonomy of speech acts (1969, 1976), including illocutionary speech acts, seems to presuppose that speech act categories are **pragmatic universals** irrespective of the speaker's language and the linguistic components chosen to perform a speech act. This ambitious task turns out as insufficient to account for the particular intents and strategies deployed in context-constrained communicative situations, where the degree of formality and specialisation (and disciplinarity) shared, expected and contested by interactants lead them to search for **pragmatic particulars.** In general, Austin's taxonomy was problematised for the easy overlapping of its categories, but Searle's taxonomy has also been thoroughly revised under the assumption that he sought an association between syntactic form and illocutionary types. Later attempts have addressed the framework of SAT in an attempt to cover these gaps in diverse ways, but probably with equally not fully satisfying results –e.g. Vendler (1972), Sadock (1974), Bach and Harnish (1979), Ninio (1986), Allan (1994), Verschueren (1999). On a more recent note, Stadler (2011) offered an innovative coding system for the analysis of speech acts, and their correlation with politeness research, which intends to avoid the impressionistic basis they bring along in their codification, as well as their heavy reliance on appearance or absence of explicit modification devices for their identification. Therefore, her system arises from the likely inconsistency and unreliability of applying Speech Act Theory to the analysis of discourse and pragmatic intent.

Another main drawback of backing up SAT for pragmatic investigation is found on its lack of suitability for diverse media. The notion of 'medium' is quintessential in current pragmatic approaches and analyses, both because of nowadays overwhelming ubiquity of digital

communication, and because of the increasing fuzziness in the identification of media (i.e. writing, speech, digital) and their likely interconnection in online interactions. Interestingly enough, this was already predicted by Allwood (1977), who provided a critical eye on Searle's Speech Act Theory and highlighted the restrictions in Searle's claims to communication solely in the form of speech, not considering his arguments equally valid for non-verbal realisations of speech acts. Generally, speech acts have been largely considered to be applied in printed or traditional genres, but now the predominance of digital communication demands analyses of pragmatic nature that investigate users' intents, goals and mechanisms to achieve them, for what Speech Act Theory may not suffice.

Furthermore, a clear-cut distinction of components or markers indicating how indirect speech acts are deployed may seem even more vague in online interactions. What is more, the same indicators, conveying illocutionary force, may be used for radically different locutionary meanings, as their illocutionary potential greatly relies on the digital affordances displayed in the texts and on the choices users make of them. Sbisà (2009: 43) claims that "what is conventional in the performance of speech acts is not their means, or at least not necessarily, but their ends, that is, what is done in them". These assets point towards a high degree of malleability and informality in the way users' speech is constructed and may turn any attempt to establish a fixed cline of pragmatic indicators oversimplified and inaccurate. Consequently, situated analyses beyond the rigid boundaries of speech acts should be undertaken under more encompassing notions, especially in digital environments.

Rhetorical Moves

Traditionally, analytical approaches to Genre Theory in offline, predominantly academic and professional genres have looked into rhetorical moves to help structure the texts under analysis into sections or stages. Following Swales' (2004: 228) widespread definition, a move "is a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse". Realisations of those moves are called "steps" and assist in further shaping the structure of a genre. In other words, moves are structural segments, which can be split into smaller steps, seeking to fulfil a communicative goal that the discourse community would expect in the use of a given genre. In so doing, they are linked to previous and subsequent moves and contribute to the general communicative purpose of the genre where they are hosted. The basis to identify the moves of a genre lies in the exploration of text-internal linguistic resources, rather than in the context surrounding the genre and other text-external resources that may influence its form and its content (Bhatia 2012). Since the inception of Genre Theory, move analyses have been geared towards the educational objective of supporting the teaching of academic writing and reading, offering pedagogical instructions for the ESP classroom (cf. Swales 1990; Bhatia 1993). This concern was especially addressed towards novice scholars and beginners that want to find their place in a particular discourse community, and non-native speakers of English in need of developing academic skills and literacies.

Even if the lens placed on the discourse analysis of texts pertains to different theoretical and analytical perspectives –Pragmatics and Genre Studies– resulting in dissimilar pathways to

understand users' communicative goals in a text, pragmatic strategies share some functions with generic moves. Hence, they have been partly imbued in their conceptualisation by insights into Genre Theory and its efforts to analyse academic, professional communication. Firstly, both approaches **prioritise the search for communicative goals** in the development of a speech event. Genre Theory favours the term 'purpose' to refer to how the text reveals what the author tries to accomplish through its different moves and steps, whereas Pragmatics emphasises the 'intents' of the interactants and tries to understand how these are textually encoded and decoded, how they trigger actions and reactions. To that respect, Pragmatics and Genre Theory, especially if we endorse Bhatia's (2012: 17) idea of 'discourse as genre', can be claimed to extend

> the analysis beyond the textual output to incorporate *Context* in a broader sense to account for not only the way text is constructed, but also for the way it is likely to be interpreted, used and exploited in specific contexts, whether social, institutional, or more narrowly professional, to achieve specific goals. The nature of questions addressed in this kind of analysis may often include not only linguistic, but also socio-cognitive and ethnographic.

Secondly, the two analytical concepts of pragmatic strategies and generic moves can be regarded as **functional**, insofar as they purport to unveil how users produce discourse and the reasons behind their choices. They both are also **formal**, since they can be located in tangible evidence (signs, items, cues) expressing diverse meanings through several modes. The main difference, then, lies in the fact that pragmatic strategies are not structural, as opposed to generic moves, meaning that they are not obligatorily the backbone of a generic or textual instantiation, but cut it across according to users' individual intents. Nevertheless, this does not entail that the identification and interpretation of pragmatic strategies in a communicative event cannot help to explore rhetoric patterns and organisational principles in those textual and generic instantiations. These and the similarities and differences between the rationales of generic moves and pragmatic strategies can perhaps be enlightened through two images. On the one hand, generic moves are ingredients in a salad: they can easily be distinguished most of the time in a visual way and they together contribute to the structure and the flavour of the whole. One can expect what ingredients to find there and which ones are more relevant than others. On the other hand, pragmatic strategies are like ingredients of a cake. They are integrated into the final product, but one may not be able to discern them all at first sight. However, one can perceive their flavour, their texture and their pertinence in the final result. Some pieces are bigger and some are smaller, but all of them are necessary to conform the whole cake. It is in their positioning in the text to express a communicative purpose that generic moves and pragmatic strategies may coincide to an extent.

Nonetheless, a relevant difference is found in the degree of fixedness of the categories "generic move" and "pragmatic strategy". The expectations users may have as for the moves that will be included in a genre they are familiar with cannot be shared in the case of pragmatic strategies to the same extent. The deployment of users' individual intents in dynamic contexts of communication (once again with a special emphasis on the digital) makes pragmatic strategies to entail a much higher degree of **optionality and heterogeneity**. Also, the fact that they are not inherent to the structure conveys their lack of a fixed combination with other strategies, in comparison, for instance, with an IMRD fixed sequence. Subsequently, users will decide whether

they want to instantiate their pragmatic intents through specific strategies if they consider them effective enough to meet those intents. There is no conventionalised structure that one must follow in a predictable order so as to succeed communicatively speaking. Analyses from this relatively ample range of options contribute to the identification of more diverse textual and generic practices, and help unveil how these practices are organised according to pragmatic force, and not according to how the users' communicative purposes were met in concrete sections. This idea relates to that of heterogeneity, as the field of pragmatics does not aim *per se* at finding homogeneous responses to communicative events. Instead, using pragmatic strategies to analyse digital discourse in research and professional practices should be rather connected with the saliency and pertinence of users' situated intentions, and the particular context where a number of specific affordances and constraints operate.

After reviewing the notions of utterances, speech acts and rhetorical moves and the way in which these relate in (dis)similar ways to my conceptualisation of pragmatic strategies, the next subsection provides the ground to understand their formal and methodological characteristics.

2.3.3. Formal features and methodological aspects of pragmatic strategies

To recall the definition of pragmatic strategies outlined at the beginning of this subsection, in understanding the concept of pragmatic strategy, we need to consider both the processes interwoven between users and texts and the communicative purposes determined by the affordances and constraints shaped by a given medium, which in this PhD thesis is digital. A first assumption that is imperative to the notion of pragmatic strategy is that they "handle the related affairs in a goal-directed and object-directed, common-sense and down to earth kind of way" (Bublitz and Norris 2011: 3). This implies that pragmatic strategies are employed in the discourse that emerges from everyday social encounters as much as in institutional and professional settings. At this point, it is deemed necessary to point out a number of defining characteristics to further comprehend and recognise the nature and working of pragmatic strategies.

As an analytical tool to look into users' intentions in a communicative event, the pragmatic strategy is geared towards the description of actual, situated intentions that senders and receivers (users in the digital medium) negotiate through texts to accomplish their communicative purposes. Consequently, the observation of a pragmatic strategy is not genuinely intuitive, but entails a **descriptive observation.** Although it may happen that the pragmatic strategies are labelled in different ways depending on each researcher's analytical viewpoint, the underlying intention that the strategies aim to highlight will be equally conveyed. Actually, the fact that analyses using pragmatic strategies do not rely on intuition can be confirmed through inter-coder reliability tests and reception studies, where other researchers and participants are involved in the analysis and may propose their own formulations and understandings. In that sense, a pragmatic strategy is **a malleable entity**. Just as rhetorical moves and speech acts tend to be identified at first sight around conventionalised elements that make them salient, as I have tried to highlight above, pragmatic strategies need to be determined by attending to the context of the communication and to the (dis)similar purposeful deployment by users. So even when the concept of pragmatic strategy entails a certain degree of rhetoric, and helps to organise researchers'

intentions and purposes in their texts, it cannot be understood as a fixed category that will mandatorily appear in a text. Put differently, when pragmatic strategies are identified and analysed, the aim is not to list the different sequential moves or stages to understand the overall function and structure of a given text, but to observe how users capture their intentions in discursive and textual choices which are very often interspersed, especially in digital contexts.

Therefore, pragmatic strategies may be used to frame users' intentions in unique communicative events contingent on their contexts of situation and their repeated identification may lead to map **prototypicality** of pragmatic strategies in those events. This would be a somewhat opposite angle to that of conventionalisation, which is usually proposed in rhetorical studies following the Swalesian model (1990, 2004). The distinction would then be that one can expect pragmatic strategies to occur in a certain communicative situation, but their occurrence, or else their order of occurrence, is not necessary for an effective communication. Lastly, the analysis of pragmatic strategies may untangle levels of **granularity**, by which we may distinguish between primary and secondary strategies in the same boundaries of a text. It is again the prototypical patterns observed and the contextual clues that may ensure the successful identification of these forces. By the same token, pragmatic strategies can nest other pragmatic strategies, in that an overriding pragmatic intent can be discerned and a series of embedded pragmatic intents achieved by deploying pragmatic strategies within the general one. Despite convoluted at first sight, such a complex system is an actual reflection of the negotiated pragmatic meanings in current digital communication.

From the previous feature it can be inferred that pragmatic strategies are **flexible in their scope and limits.** Bearing in mind that pragmatic strategies are regarded as functional and formal (but not structural) units of analysis, they can be aligned with various units of texts of different length and structure. Their realisation may be equally framed at the level of the clause, at the level of the sentence, but also at the level of bigger units, like the paragraph. Nonetheless, indicators can be singled out to understand the nature and scope of pragmatic strategies. For example, at a grammatical dimension, the presence of imperatives is connected with interactional strategies, and the use of subordinate clauses of purpose may hint at promotional strategies underlining the positive impact of the projects. Various lexical signals include explicit performative verbs uncovering speakers' true intention, self-disclosing phrases anticipating the strategy, such as "The aim of the project is…", and more subtle ways like the use of evaluative adjectives and complex nominalisation. These type of indicators are far more complex to find when the pragmatic strategy is textually associated to bigger units such as paragraphs because of its prominence in a given text. In these cases, an overarching pragmatic strategy would probably include the purposeful mixture of other embedded strategies of different scopes and forces, as commented above.

In digital environments, the recognition of formal boundaries that help unpack the pragmatic strategies deployed becomes even more powerful, since the **technical affordances of digital genres and media** play an important role in how users convey their intentions through their discursive choices. Intrinsic to those affordances and users' choices is the possibility of leveraging different modes to make meaning and to construct the users' intentions in the digital texts. Therefore, pragmatic strategies should be acknowledged with **multimodal potential**, and the combination of various modes is to be seen as a further component that may be maximised by

users to encode their pragmatic strategies when communicating online. The various combinations of verbal text with image, video, audio, colour and typography offer users a wide range of mechanisms and resources to deploy their communicative intentions to the readership. Such multimodal ensembles may make the boundaries of pragmatic strategies even more difficult to identify, in that there may be no beginning or end marked in the digital text depending on its layout and structure. Due to the spatial and scope limitations of a study like the present one, the focus is placed on the pervasive verbal mode; however, the notion of pragmatic strategy should not be understood as restricted to it. Other modes, and their potential combination, play a key role in how users transmit their intentions and make them visible when communicating online.

These assumptions are made more complex by the multiplicity of platforms, formats and choices at users' disposal to accomplish their goals in a communicative event. Pragmatically such an interwoven net of digital texts and individual practices may make the identification (and generalisation) of users' intentions tremendously blurry, fragmented and overlapping. From the analyst's perspective, users' intentions online are **blurry** because they are usually oriented towards very specific purposes and might only be fully understood in light of the digital environment where they are set and in company of previous and subsequent intentions, that is, in context. Users' intentions can be leveraged by sophisticated digital affordances at different levels: just through one character (such as by using emojis or inserting only a question mark), through hypertextual references that actually do not add any verbal information, at the level of the clause or the sentence, and even at broader levels that may include different parts within the digital text (regarded here as the *page format*), for instance, consecutive paragraphs, structured layouts, audiovisual elements, and textual cross-references. This blurriness may be especially evidenced in asynchronous environments that rather favour a monologic type of interaction among users (e.g. Wikipedia entries, e-mails, news articles and corporate websites). Readers of these digital texts will not demonstrate whether they have successfully received and understood the authors' intentions. The lack of feedback from users' reception has an influence on the explicit accuracy of the encoded intentions, therefore making their identification for the analyst somewhat fuzzy and convoluted. Precisely the fact that authors do not know who the readers are that will go through their digital texts may also hinder the deployment of users' intentions through crystal-clear strategies, as they oftentimes address diversified readers and, therefore, encapsulate a combination of purposes.

Users can also arrange their intentions in the textual space by deploying pragmatic strategies in **fragmented** ways. This would be the case when the strategies do not display a clear-cut beginning and end, unlike in the conversational turns in a spoken interaction or the consecutive lines in a written dialogue. Rather, strategies have the potential of being textually distributed over one paragraph, several paragraphs, one webpage, several webpages and even across sites. Even when the communicative goal may be well accomplished, and the pragmatic force well encoded and transmitted, it is hard to establish, methodologically, the limits framing the strategy and, consequently, the exact textual evidence users have chosen to deploy their intentions. Furthermore, pragmatic strategies can go through cases of **overlapping**, in the event that pragmatic strategies disclosing two distinguishable intents are realised in the same textual space with the same textual mechanisms. This scenario is triggered by the lack of one-to-one

correspondence between the strategies and their realisations. The variability of verbal and non-verbal forms that they may instantiate needs to be valued together with the affordances and constraints of digital settings, which sometimes make it even harder to single out different strategies. This could be the case of the character limit in profile descriptions and tweets forcing users to comply with the brevity required for their texts, or the juxtaposition of verbal and visual features where the modes contribute through different strategies to meaning making.

The methodological procedure to fruitfully overcome the complexities presented above in the identification and interpretation of the pragmatic strategies is captured in Figure 2.5 below. The four facets of how this descriptive analytical tool should be applied concern the observation of empirical evidence, the pursuit of an inductive approach, the need for a spiral process, and the consideration of an ecological view. Taken together, they aim to ensure that the textual evidence revealing the pragmatic strategies is just not in the 'eyes of the beholder', but is accurate and may correspond to users' intents in a communicative event. Chapter 3 brings into sharp focus practical matters and considerations of how this methodology was designed and the principles presented above applied to the analysis of the EUROPRO Digital Corpus.

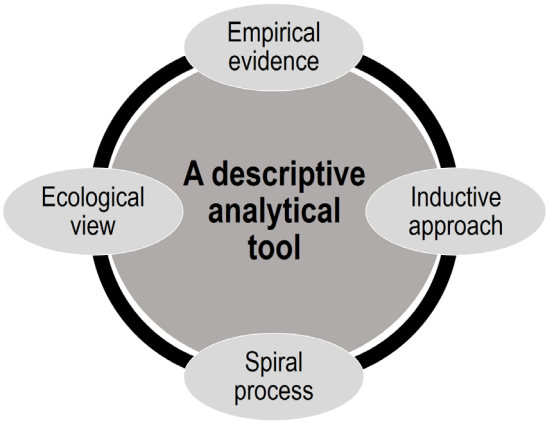


FIGURE 2.5. Methodological facets in the application of pragmatic strategies to textual data.

The pragmatic strategy is in the end a unit of analysis that uncovers users' intentions in situated contexts and for very specific purposes. In this way, pragmatic strategies are **empirically-based** and dissociate themselves from broad categories that report on universal intentions when communicating among interactants. They focus on how the intentions of users in a well-delimited speech event are encoded and performed. Taking an example back from SAT, one can imagine how 'commanding' or 'suggesting' constitute instances of directive speech acts. They ultimately represent the user's need and wish to order something to another user and to bring up and share it with her/him. However, no contextual information is included in the labels themselves, and these speech acts may be applicable to a myriad of communicative situations. In this vein, pragmatic strategies do not fit such an abstract mould (whatever its shape) and the content within, but they entail a mould with a very specific shape that also contains a very specific type of content. In the end, connections with Speech Acts can somehow be made, but as a point of departure of the constitution of the pragmatic strategy in the communicative exchange, not as a concrete reformulation of general categories that can spread across communicative interactions and circumstances. By way of example, this means that "Guiding the audience to perform an action",

one of the strategies within the taxonomy (see Chapter 5 below) may be naturally connected with the traditional category of directives. Yet, pragmatic strategies, such as the one exemplified, transcend simplified lexico-grammatical and pragmatic mechanisms which help users express their actual intentions at a micro-level. Such mechanisms provide evidence to understand how pragmatic strategies may make sense in the communicative event observed, and how they combine with other strategies to accomplish different overriding communicative purposes.

Accordingly, the relevance of empirical evidence to comprehend the pragmatic strategies at stake in a communicative situation leads to an iterative process for their identification, and for the delineation of their scopes and boundaries. That is why an **inductive approach** is called for to retrieve the meaningful pragmatic strategies characterising a particular context of communication. Following such an approach does not imply that pragmatic strategies are identified based on intuitions, but that a bottom-up approach is required to conform taxonomies of strategies that may mirror users' intents when communicating. The attempt to explain their reasons and goals when maximising digital communication for specific purposes may lead to subjective analyses that might run risk of being a bit farfetched in the end. Two important factors should be underlined in this sense. First, technical and medium-dependent affordances surrounding the communicative encounters play a key role in how users will interact with one another, how they will be able to display their intents and aims, and how these will be received at the other side of the screen. Second, the characteristics of the users, and their personal, professional and sociocultural background, will further determine the ways in which the digital affordances may be leveraged and exploited. In the case of the communication of research projects, users' digital, discursive practices tend to unfold in asynchronous environments that do not enable a high degree of interaction between authors and readers. This accentuates the fact that analysts from any discipline, but perhaps more importantly pragmatics, cannot be certain of how the recipients of the digital texts are decoding the discourse deployed there and the users' intentions as encapsulated in the former. Simultaneously, it reinforces once more the suitability of empirical perspectives. So, whether users' intentions are effectively conveyed or not needs consideration from the point of view of other analyses that also involve readers and interactants.

The third methodological asset in Figure 2.5 for sketching pragmatic strategies involves the need of a **spiral process**. This is regarded as a back-and-forth pathway between the data sample or the corpus and the insights the analyst gradually collects. It is my belief that the longer this two-way process is sustained, the more successful an informed landscape of the pragmatic strategies at work will be. The spiral shape evokes the need for ongoing revision of the labels and scopes of the strategies, based on the textual choices one finds in the analysis of the data. In that sense, it is as if we were looking through a kaleidoscope and we were trying to discern all the colours and their shades. They are all there, but they appear intermingled making a whole. The spiral process will get narrower and quicker until a point of saturation is reached. A more careful explanation in relation to this is provided in the methodology of the study (Chapter 3).

Finally, an **ecological view** underlies the methodological perspective taken for the analysis of pragmatic strategies. As they are intended to reflect pragmatic particulars, pragmatic strategies will vary in their occurrence, their prominence and their realisations depending on the timely and spatial characteristics of speech events. The external and contextual characteristics of

speech events may bring about new needs and intentions on the part of the users, and leave others that were once meaningful behind. Likewise, as digital media evolve and incorporate new affordances and constraints, users may frame those intentions in different, and innovative, ways. This adds to the variability found in the way pragmatic strategies are deployed and realised, and strengthens the call for qualitative, empirical, context-situated analyses to grasp the pragmatic strategies that are in vogue when analyses are undertaken. Ultimately, the fact that pragmatic strategies endorse, in my view, the existence of an ecology of digital discursive practices of research projects, means that the strategies come to encompass the communication processes behind the researchers' intentions. In other words, they do not exclusively focus on the product, but on the material evidence that we can see in the text and that may rapidly change according to users' pragmatic and discursive choices.

The notion of pragmatic strategy used in this PhD thesis has been introduced in this subsection. A definition has been provided, and a number of formal features have been discussed. Connections with traditional pragmatic notions have been established to fully understand the concept. Methodological considerations have been made to illustrate how they are to be applied in the analysis of digitally-mediated communication in general, and digital scholarly practices in particular.

2.4. Multimodal insights for a pragmatic approach to digital discourse

This last section of the Theoretical Framework aims to delve into the multimodal character that permeates digital communication in general, and digital scholarly and scientific communication in particular. The section revolves around two main cornerstones: 1) a revision of the seminal literature and empirical analyses that have described the way the tenets of multimodality have been applied to communication; and 2) an approach which argues in favour of incorporating multimodality, both from theoretical and methodological viewpoints, to the pragmatic analyses of situated digital discourse. Embracing multimodality as another essential tool in the box for the holistic pragmatic study of international research groups' digital practices will serve to enlighten the interplay of verbal and non-verbal resources in web-mediated communication, and how the combination of modes may influence (and expand) the conveyance of pragmatic intentions through informative, promotional and interactional strategies. The review and discussion of existent multimodal studies is hoped to set the ground for the analysis of the *Homepages* contained in the EUROPRO Digital Corpus, which will be presented in Chapter 5 below (see Subsection 5.2.4).

The remaining of this section is organised as follows. Subsection 2.4.1 provides an explanation of the concept of multimodality and an overview of key terms for multimodal analyses. It also focuses on the modes that are pertinent to digital discourse and, more specifically, concerning the discursive practices under study: RPWs and TRDP. Subsection 2.4.2 intends to explore how the field of pragmatics may (and should) take into consideration the assets offered

by multimodality to exploit the full potential of digitally-mediated communication, especially in scholarly and scientific contexts.

2.4.1. Multimodality as an analytical perspective

In the recent editorial of *Multimodality & Society*, Jewitt et al. (2021: 4) contend that "multimodality interrogates how the resources and processes of meaning-making shape and are shaped by people, institutions and societies". This claim emphasises the relevance of any choice we make in the design of a text, whether offline or online and whether composed by verbal or non-verbal elements, bearing in mind the context of production of the text. **Multimodality** can be broadly defined as "the full repertoire of resources that people use to communicate and represent phenomena and experiences including speech, sound, gesture, gaze, body posture and movement, writing, image and so on" (Jewitt 2014: 127). Traditionally, writing has enjoyed a privileged position within our discursive practices and the genres and texts that we have produced and consumed. Yet, meanings arising from modes other than writing have grown in significance and circulation as assets to powerfully communicate about the world and with others. The conventional bias towards written discourse in research contexts is pushed away by the shifts in our contemporary social and communicative environments which are dominated by the digital medium, where multimodality is an intrinsic feature (Kalantzis and Cope 2012).

Thus, as a society we are inevitably grappling with the implications derived from the quick development and sophistication of multimodal practices, especially as hosted in interactive digital media (O'Halloran and Smith 2011). We are witnessing the consolidation of **a multimodal turn** in the ways we communicate and interact with others, and we need to understand how this has altered our social and communicative practices. A good starting point is highlighted by Hull and Nelson (2005: 226), who advocate that "the new media that afford multimodal composing might helpfully be viewed not as a threat to or impoverishment of the print-based canon or traditional means of composing, but rather as an opportunity to contribute a newly invigorated literate tradition and to enrich our available means of signification". In light of this scenario, Iedema (2003: 33) claims that "the trend towards a multimodal appreciation of meaning making centres around two issues: first, the de-centring of language as favoured meaning making; and second, the re-visiting and blurring of the traditional boundaries between and roles allocated to language, image, page layout, document design, and so on". In the end, multimodal texts incorporate different semiotic modes that are integrated and combined to create meaning in original and sophisticated ways. As contended by Baldry and Thibault (2006: 3), these modes "are not simply juxtaposed as separate modes of meaning making but […] form a complex whole which cannot be reduced to, or explained in terms of the mere sum of its separate parts".

Indeed, the conceptualisation and application of multimodality is blooming at the moment, brought about by a quick evolution of the discipline and deriving in analytical frameworks being constantly proposed and refined. Such a constant development, inextricably linked to technical sophistication, has probably driven to a number of issues that may pose **drawbacks to multimodal research** and that remain without a definite answer and necessitate further investigation. Some of them may include:

● lack of consistency in the way multimodal terms are used by researchers (Norris and Maier 2014), which has led to a 'redescription syndrome' (Bateman, Wildfeuer and Hiippala 2017: 232);

● problems of replicability when fitting multimodal analytical toolkits into investigating data different from the ones employed in the construction of the framework (Corona 2020);

● the management of detail and complexity entrenched in annotating, analysing, searching and retrieving multimodal patterns (O'Halloran 2011);

● the risk of falling into somehow interpretative and impressionistic analyses, for which increased empiricism is called for (Hiippala 2015);

● a view that is still impregnated with linguistic imperialism, and that demands to overcome the 'tunnel vision' (Forceville 2010);

● excessive detail in the multimodal description of specific texts, artefacts and situations, which are not linked to each other analytically (Corona 2020).

At this backdrop, then, how are multimodality researchers, applied linguists and discourse analysts facing this change of paradigm towards an increasingly prominent exploitation of multiple semiotic modes? Investigations in those disciplines have already directed their attention to the increasing reliance for making meaning on modes that go beyond language-in-isolation, setting up frameworks and methods to provide a substantial basis for research on multimodal communication and interaction. For that enterprise, three main theoretical and analytical approaches, different yet interconnected at their core, have emerged and established themselves as useful and meaningful to grasp how multimodality affects our communicative situations and discursive practices in various ways.

The first consistent model to systematise multimodal research is **Social Semiotics**, also commonly referred to as **the Grammar of Visual Design**, inspired by the work of Kress (2003, 2010) and Kress and van Leeuwen (1996, 2001). Drawing on Halliday's (cf. 1978) framework of Systemic Functional Linguistics (SFL), the overarching idea is that all semiotic modes carry out three metafunctions (ideational, interpersonal and textual), working as a full system of communication. Although this framework is extrapolated to other modes, the emphasis is placed on the mode of image and the visual literacy of users.

> The two modes of writing and of image are each governed by distinct logics, and have distinctly different affordances. The organisation of writing –still leaning on the logics of speech– is governed by the logic of time, and by the logic of sequence of its elements in time, in temporally governed arrangements. The organisation of the image, by contrast, is governed by the logic of space, and by the logic of simultaneity of its visual/depicted elements in spatially organised arrangements.
>
> (Kress 2003 :1-2)

From this model, the **Genre and Multimodality Framework (GeM)** was developed to embrace the concept of 'genre' as the basic point of departure to tackle the empirical analysis of multimodal phenomena in a variety of page-based documents and other multimodal artefacts (Hiipala 2017). The GeM framework was especially led by the work of John Bateman and is presented in depth in some monographic books (cf. Bateman 2008; Bateman, Wildfeuer and Hiipala 2017). The GeM framework foregrounds the role of 'layout', as descriptive of the communicative goals entrenched in texts and as telling about the contextual constraints that have to be considered in pursuing those goals. In association with the linguistic perspective on 'genre', the analysis of layout may help unveil variation in the rhetorical structure of web documents, for which a corpus-driven approach was established at the outset (Bateman 2014). Semiotic resources are regarded as letting users make paradigmatic choices and enabling them to combine their choices into syntagmatic structures, which actually allow keeping track of the materiality of those semiotic resources.

Finally, a third approach is derived from the tradition of Discourse Analysis, which also acknowledges the relevance of multimodality in current communicative trends, giving way to **Multimodal Discourse Analysis (MDA).** MDA rests upon the assumption that concepts of linguistic investigation can be extended to other semiotic modes, in order to explore how language, hyperlinks, and visuals equally contribute to the meaning-making process. Studies from this analytical perspective (e.g. O'Halloran 2004; Baldry and Thibault 2006; Hart 2020) take a broader angle to understand discourse as inherently comprising multiple modes that usually combine and create meanings in their interaction. In Jones' (2019: 31) view:

> 'written texts' rarely consist only of words, especially nowadays. They often include pictures, charts or graphs. Even the font that is used and the way paragraphs are arranged on a page or screen can convey meaning. The point of multimodal discourse analysis is not to analyse these other modes *instead* of speech and writing but to understand how different modes, including speech and writing, work together in discourse.

At the juncture of the theories and approaches highlighted above, one idea seems clear: texts are no longer to be conceived as exclusively linguistic artefacts, but multimodal in nature, even more when occurring within the digital medium. Digital discourse marks a shift from offline discursive practices, where the prevailing mode was the verbal one, to online discursive practices, which growingly rely on multimodality and thus bring with them the use of various modes as extensive design elements in the composition of texts. The departure point is, then, that texts are meaningful wholes, in that "a text (or semiotic material) is shaped as a whole, which gives it a contextual configuration, where some bonds within which communication unfolds are coded" (Ledin and Machin 2019: 6). Going back to Kress and van Leeuwen (2003: 2), meaning in multimodality works as it does in speaking: "inevitably one thing is first, and another thing is second, and one thing will have to be last. Meaning can then be –and is– attached to 'being first' and to 'being last'". To understand multimodal texts, then, one needs to look into their inner design where the sort of semiotic choices are organised to form the whole text.

A first consideration in how multimodality can be studied lies in the definition of **'medium' and 'mode'**, because neatly distinguishing these two terms still poses some problems

and may lack full agreement. A mode (or, alternatively modality) touches upon distinct aspects of a communicative utterance or a medium and is in general tied to physiological or sensory capacities and channels, in a way that the visual mode is related to seeing, the auditory mode is related to hearing, and the tactile or haptic mode is related to touching (Pauwels 2012: 250). A mode can be defined as "a set of representational resources, existing in different channels or modalities, which carry conventionalized meanings within a given community" (Hart 2020: 143). A communicative mode in this sense is not a bounded unit. Rather, "it is a heuristic unit that is loosely defined without clear or stringent boundaries and that often overlaps (heuristically speaking) with other communicative modes" (Norris 2004a: 101). As Jones (2019: 32) notes, modes should not be confused with media, "which are the material carriers of modes". Subsequently, modes involve sets of resources that can be maximised in a medium to communicate meaning based on a system of *signs* that are commonly or implicitly understood.

Irrespective of the multimodal framework adopted, a wealth of phenomena nested in the architecture of the Internet have implications in the analysis of modes and media enabled in digital communication. The interplay of semiotic modes and the affordances of digital genres and media leads to complex composites that deserve attention and that are entrenched in processes of hypermediality and hypermodality, the potential of web interactivity, the organisational modes of text-flow, image-flow and page-flow, and the modality of pictures, *inter alia*. As a consequence, they should be borne in mind in multimodal research as they fundamentally contribute to making meaning, shaping digital texts and, overall, constructing discourse.

The notions of **'hypermediality' and 'hypermodality'** recurrently replace each other in recent research and seem to have very elusive differences, as they both refer to the "conflation of multimodality and hypertextuality" (Lemke 2002: 301). Actually, in rethinking traditional constitutive elements of genres to reinforce the technical functionality of the digital medium, a plethora of terms without neat distinctions co-exist, including 'hypertextuality', 'hyperlinking', 'hypermediality', 'hypermodality' and 'hypersemioticity' (Petroni 2011). It could be argued that hypermediality is to be taken as a more encompassing term based on the concept of 'medium' as the digital venue where hypertextuality may be enacted and where various texts can be interwoven through particular realisations. Hypermedia texts "make meaning through the interplay of hyperlinks with various semiotic resources (e.g., language, typography, layout, color, sound, movement)" (Djonov 2013: 1). This is why any webpage should be considered as a hypermedia unit in which to "explore its actual and potential hypertextual links to other webpages within and beyond the website's boundaries" (Djonov and Knox 2014: 189). In contrast, hypermodality, based on the concept of 'mode', favours the set of semiotic resources (e.g. verbal, visual, auditory) which can be equipped with hypertextuality and through which users can navigate from one text to another one. It can be regarded as "more than multimodality in just the way that hypertext is more than plain text. It is not simply that we juxtapose image, text, and sound; we design multiple interconnections among them, both potential and explicit" (Lemke 2002: 300). Thus, hypermodality places the focus on how a multiplicity of modes encourages a web design that allows users to interact upon modes via hypertextual references.

Relatedly, in the understanding of the potentialities triggered by the hypermodal and hypermedial nature of digitally-mediated communication, Adami's (2015) model of **'web**

interactivity' turns out as an efficient asset to identify 'interactive signs/sites'. These signs and sites present three intertwined characteristics, since they "(a) have a meaningful form, (b) require an action, and (c) produce an effect" (2015: 136), evidencing a problematic two-fold nature, in that they "are meant to be acted upon rather than, or along with, being interpreted" (2015: 137)[5]. The author points at the lack of direct associations between their features and argues that the forms of such interactive signs/sites can be symbolised by different modal configurations (e.g. writing, images, sound), irrespective of the interactive function attributed to them. In turn, an ample spectrum of forms is contrasted with a small range of actions (e.g. click, tap, type and click, hover) that may solely hint at preferred signifiers, always dependent on users' choices. Finally, the span of effects caused by interactive signs/sites is as reduced as the range of actions to activate them, but is also imbued in diverse textual realisations. According to Adami's model (2015: 139), three main effects can be semiotically fostered in the web, namely "(1) access new text, (2) provide text, or else (3) transfer text to others". This framework proves fruitful to pinpoint the spaces within a webpage where interactivity is entangled through the addition of hypertextuality and the combination of semiotic modes, and understand what they are included for.

One more pertinent aspect in relation to the concept of mode is proposed by Bateman (2008), who distinguishes between **text-flow, image-flow and page-flow** to tackle the organisation and structuring of web documents, respectively indicating sequentiality of text, temporal sequentiality, and spatial contiguity. These three semiotic modes are in the end "abstractions that help to capture the broad principles behind the multimodal organisation of a page" (Hiippala 2015: 60). More specifically, the differences between the three are:

- 'Text-flow' is regarded as **"**the semiotic mode of linear written text […] found whenever it is the one-dimensional line of the developing text that provides the basic organising scheme" (Bateman 2008: 175).

- 'Image-flow' is employed "to organise sequences of graphical elements rather than text" (Bateman 2008: 175), hinting at a temporal configuration that serves to portray meanings that extend over and above the ones in contributing images. It "emerges when images are placed next to each other to form meaningful sequences" (Hiippala 2015: 61).

- 'Page-flow' stems from the combination of text and images in the layout in a webpage and is "a semiotic mode that builds on distinct contributions and which *is* susceptible to rhetorical organisation" (Bateman 2008: 157). It is the mode that prevails "when a document starts to utilise the full two-dimensional spatial extent of the page for expressing rhetorical and other functional organisations" (2008: 176) that back up the communicative purposes encapsulated in the text.

[5] The three characteristics attributed by Adami (2015) to interactive signs/sites seem to draw an interesting parallel with the type of pragmatic forces. Thus, their meaningful form could be linked to the locutionary force, the required action could be connected with the illocutionary force and the effect produced could be related to the perlocutionary force.

Text-flow and page-flow seem then to co-occur in the structure of web texts. The divergences among the rhetorical implications of adopting these three semiotic modes in the organisation of (digital) documents are illustrated in Hiippala (2014: 116):

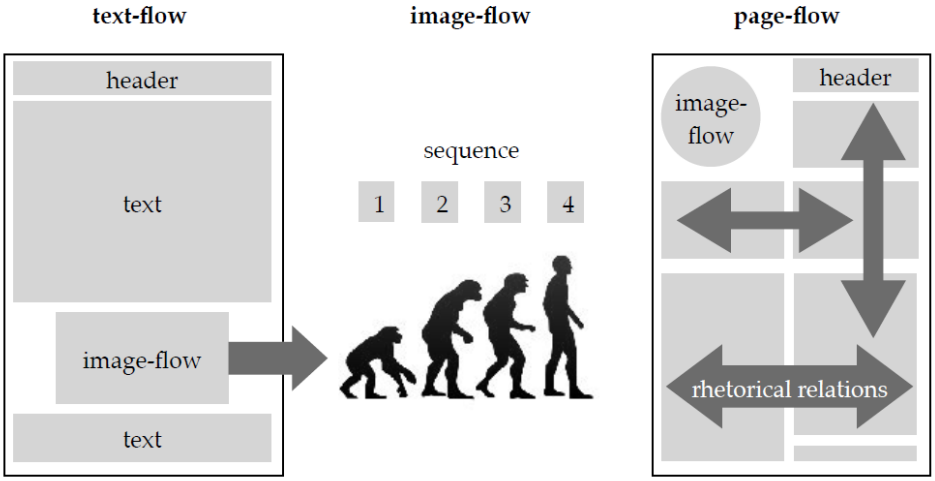


FIGURE 2.6. Semiotic modes in the multimodal organisation of a page (from Hiippala 2014).

Furthermore, ways of compartmentalising areas within the page-flow of digital texts are pursued and several terms coexist as possible analytical standpoints. Hence, we can look into 'multimodal ensembles', 'multimodal assemblages' or **'multimodal clusters'**. This last notion alludes to "groupings of resources that form recognisable textual subunits that carry out specific functions within a specific text" (Baldry and Thibault 2006: 11). A cluster analysis involves the identification of hierarchies of multimodal items which construct meaning and interact across various levels and which contain complex units of sense that are relevant for the organisation of a text within a communicative space and its contextual parameters.

Two further distinctions are pertinent for the study of multimodal texts. The first one concerns the notions of **'embodied'** ***versus*** **'disembodied' multimodal communication**, in which embodied communicative modes include gaze, gesture, movement or spoken language, whereas disembodied modes are regarded through frozen action rather than real-time action (Norris 2004b). The second distinction revolves around the **modality attributed to the semiotic modes**, understood as "a category to indicate the 'fit' between the reliability/ truth of what the world seemed to be like and what the representation seemed to indicate" (Kress and van Leeuwen 1996: xvii). This is frequently applied to images, in order to signal, from a technical point of view, "a scale from naturalistic to abstract coding orientation – a function of depth, colour saturation, colour differentiation, colour modulation, contextualization, pictorial detail, illumination and degree of brightness" (Martinec and Salway 2005: 367). These modality markers are also emphasised in relation to real/irreal or /representational/abstract pictures, resulting in high/low modality pictures, respectively.

The **spectrum of multimodal artefacts** that can participate in the composition of web documents can be classified into 'text-typographic', 'graphic', 'diagrammatic' or 'other' (Hiippala 2016: 39). Sentences, headings, headlines, captions and emphasised text are comprised

within the text-typographic category. Photos, drawings, diagrams and maps fall into the graphic type of resources. Icons, arrows and connecting lines are considered to be diagrammatic. Other elements could include page numbers, footnotes or delimiting lines.

Within the set of graphic multimodal artefacts, **images** occupy a predominant position. As for their technical structure, a growing repertoire of images features current digital communicative practices, with a basic distinction between still images and moving images. In recent years, the appearance and exploitation of some of these still and moving images led to the characterisation of new multimodal resources and genres, such as memes, stickers and GIFs (Graphic Interchange Format, that is, silent moving images). Images can also be graphically grouped into bigger multimodal units, giving way to carrousels, sliders and galleries. As for the content they may portray, a distinction between high and low modality pictures is often emphasised, as discussed above. In web documents, images are key in the compositional choices made by authors and contribute to their layout, fulfilling an important role in the organisational systems of framing, salience and information value pointed out by Kress and van Leeuwen (1996, 2001).

The case of **emojis** as a multimodal graphic element in web-mediated texts and genres is especially prominent in social media environments. They are defined as a set of predesigned images (pictograms) presented in colour and with diverse functions in digital written interaction (Vela Delfa and Cantamutto 2021). Emojis have been researched in relation to the interpersonal linguistic functions they fulfil in a variety of contexts, such as introducing a modulating tone (Danesi 2016; Dainas and Herring 2021); negotiating politeness (Beißwenger and Pappert 2019); forging interpersonal alignments (Sampietro 2016); and signalling humorous meaning (Skovholt, Grønning and Kankaanranta 2014; Thompson and Filik 2016). As an object of study, they have been analysed within and without text, as well as beyond accompanying text (Yus 2019).

Typography should also be regarded as a semiotic mode standing in-between the verbal and the visual modes (Stöckl 2005). Different text-typographic resources are leveraged in digital practices, such as typefaces, size, underlining, bold and italics font, as well as headings, headlines, mottos and slogans, among others, so as "to create a usable environment for searching, skimming, and seeing content structures diagrammed" (Waller 2012: 24). Yet, typographic elements may also be fostered by the affordances of a particular genre or platform. Much in the same way as headings can be employed in online news, blog posts and websites, this is not possible in SNSs like Twitter or Instagram, which, in turn, afford the use of handles (@) and hashtags (#) as typographic structures. In general, the purposeful deployment of typographic semiotic elements attempts to "guarantee smooth readability and provide a strategic organization of a text's content" (Stöckl 2014: 285).

Colour constitutes a further semiotic mode. Kress and van Leeuwen (2002: 343) state that "on the one hand the connection of meaning and colour seems obvious, natural nearly; on the other hand it seems idiosyncratic, unpredictable and anarchic" (Kress and van Leeuwen 2002: 343). Colour schemes are relevant in the configuration of digital texts and genres, and serve a variety of purposes. This is plainly visible in the blue-coloured font provided to hyperlinks, which makes them recognisable at first sight as interactive multimodal resources. Associations between colours and meanings stabilise over time and provide cohesive cues to texts, becoming readily

understood by the readership. However, as Pauwels (2012) cautions, the prototypical meanings of colour should not be prioritised without bearing mind the different cultures surrounding the texts, as they rely on the exact context of their use and may adhere completely distinct meanings. This duality (conventional meanings *and* arbitrary meanings) should be interpreted depending on the textual and generic instantiation and its contextual parameters. Overall, in digitally-mediated communication, colour may provide a background to specific areas within the page-flow, catering for framing purposes; may convey a set of symbolic values and iconic concepts, fostering ideational meanings; may embellish the texts, serving for stylistic purposes; and may highlight key parts in the text-flow, contributing to textual functions and interpersonal ends.

In the next subsection, I try to highlight the helpful tandem that can be created out of the blending of pragmatic and multimodal analyses. Emphasis is made upon scholarly and scientific contexts as interesting avenues in which to apply such a combined perspective.

2.4.2. Pragmatic research of scholarly and scientific communication: The multimodal perspective

In the previous subsections, some of the fundamental concepts and most influential theories on multimodal analysis have been reviewed, together with the reasons why multimodality should be taken into consideration when discursively analysing digital genres and media. In this subsection, the focus is placed upon how multimodality is entangled in pragmatic phenomena as well, and specially in those occurring in the digital medium. Any pragmatic implication in digitally-mediated communication is framed through a screen that both senders and receivers of a communicative message share. The investigation of such implications could be tackled from the lenses of the politeness principles that may govern users' online interaction, the relevant-theoretical principles to the maximal processing of the information exchanged among users, or users' negotiation of the Gricean maxims in the distribution of information –to name but a few pragmatic issues (see Section 2.2). For the purposes of this PhD, the multimodal potential of digitally-mediated communication in scholarly and scientific communication is explored from the standpoint of the expression of users' intentions, which is analysed in terms of pragmatic strategies.

Although not sufficient consistency has been achieved in how to carry out pragmatic research that integrates multimodality, there seems to be consensus upon its **undeniable influence on pragmatic phenomena**. In Bublitz and Norrick's (2011: 11) words, "semiotics, the general study of signs and sign processes, is fundamental to pragmatics, the study of language use, speech acts, and communicative processes, and it extends the framework of language use to include nonverbal, visual, and other signs in the context of verbal behaviour". Such an association of analytical perspectives stems from the fact that they both share in their tenets common interests in the study of communication, since "both traditions are concerned with language use and both acknowledge and take into account the significance of contextual parameters" (O'Halloran, Tan and E 2014: 240). Hence, it seems feasible to undertake studies that may include these two

perspectives nurturing one another. The suitability of featuring multimodality in research in Applied Linguistics seems self-evident, in that "nowadays, communication draws extensively on textual, visual and multilingual discourses, often tending to highly multimodal compositions in which text and image collaborate in conveying the intended interpretation" (Yus 2019: 2).

From the previous statements, it can be inferred that there should be a recognition of the different *texts* –understood as orchestrations of semiotic modes– that play a role in building the digital text and in constructing its meaning. Pragmatic research acknowledging multimodal textual design is beneficial to increase the **awareness of the possible meaning-making processes** that users can negotiate and foster. Although a purely verbal analysis may well provide interesting insights into the trends and changes digital communication is going through, such a 'monomodal' analysis may not seem to cover the whole picture and might fall into being scarce, incomplete or even biased. Actually, an advantage of underlining multimodality at some extent in the analysis of discourse, in this case even more as it is digital, is that it provides "an important counterbalance to monomodal approaches to meaning making" (Iedema 2003: 29). That is to say, traditionally, pragmatic theories and frameworks have consistently been applied to the analysis of written and oral discourse emerging from offline sources; however, the advent of the Internet and the evolution of discourses and practices in online environments has posed new challenges to pragmatists and discourse analysts alike. Accordingly, multimodality is one of the many foci that 'Internet Pragmatics' (or Digital Pragmatics as leveraged in this PhD thesis) should explore in current communicative practices, as contended by Xie and Yus (2018: 10, my emphasis): "Internet pragmatics should […] look into those new phenomena, issues and puzzles that emerge in the process of internet-mediated interactions, technolingual, technocultural, social, *multimodal*, cognitive, moral, and so forth".

The reasons to incorporate a multimodal lens into a whole pragmatic analysis lie in the fact that both the mere appearance of other modes (e.g. audio, video, image, gesture) and, naturally, the combination of those with verbal texts can hint at users' communicative intentions and at users' choices for information selection, presentation and processing. This is evinced if we think of the same digital text, but we reduce it to a single mode: if we remove either the verbal text or any multimodal resource, it is clear that not only the structure and the content of the text will differ, but also the intention conveyed by the author and the effect produced on the reader will inevitably change. Consequently, theoretical approaches and empirical accounts within the field of pragmatics are methodologically bound with multimodality to a certain extent. In this PhD thesis, multimodality is to be conceived of as a research instrument, as a complementary analytical tool within the toolkit employed to grasp the full picture of the pragmatic strategies employed in the digital communication of IRPs –together with other tools such as corpus linguistics and ethnographically-oriented studies (see Chapter 4).

Generally speaking, **attempts to coordinate pragmatic and multimodal analyses** have already been made in some specific research contexts. For example, O'Halloran, Tan and E (2014) concentrate on the meaningful interaction of speech and embodied multimodal resources, paying their attention to gestures, gaze and movement. Their attention is geared towards learning tasks and the pragmatic influence of linguistic, visual and actional resources. Yet, they rather overlook how pragmatics meets multimodality in disembodied communication, referring to modes such as

written text, images or layout. On another note, Yus (2011, 2019) also ponders the role of multimodality in his framework of 'cyberpragmatics'. He investigates how users retrieve explicit and implicit interpretations from non-verbal modes, triggering visual explicatures and implicatures. However, he overall favours a relevance-theoretic standpoint and analyses cognitive and pragmatic phenomena in digital genres and contexts, instead of specifically embracing theories and approaches of multimodality.

As a result, the relatively scarce research into multimodal pragmatics manifests that more efforts are needed in this direction. The seminal studies presented above concentrate on personal spheres of digital communication and limit their analytical perspectives to concrete models (Relevance Theory) and applications (pedagogical ends). They do not intend to fully cover the specific investigation of how intention is discursively encoded by users' choices in digital practices of disembodied multimodal communication, emphasizing the roles of modes such as written text, images and layout. Therefore, pragmatic research into disembodied multimodal resources needs to be expanded, attending to the role of semiotic modes in digital texts and genres. To fill that niche, I coin the notion of **Digital Multimodal Pragmatic Analysis (DMPA)** as an umbrella term to advance in this direction in the belief that, only by understanding the *whole* of textual and generic practices mediated online, their full pragmatic potential can be retrieved, understood and exploited. In my view, a big research gap is found in how the multimodal nature of digital texts affects their pragmatic exploitation in scholarly and scientific contexts, in general, and in research project communication, in particular.

At present, the dichotomy around the presentation and communication of research either in print format or through a screen format is fundamental (Engberg and Maier 2015a). The range of multimodal devices in digital texts keeps widening, pushed by users' needs to convey their communicative purposes more easily and efficiently. In scholarly scenarios, the set of multimodal resources is somehow limited to those which contribute to enhancing knowledge building processes (Engberg and Maier 2015b), assisting the researchers that author the digital texts to do so. General elements inherent to the Internet architecture are leveraged for these purposes, such as clickable buttons and unfolding menus and texts. Elements related to particular genres and media are also of use for this type of specialised, scientific communication (e.g. emojis and GIFs in Twitter). Additionally, the spectrum of web-generated multimodal items in scholarly contexts may comprise images of various sorts (e.g. still, moving, in the shape of a carrousel), videos of different lengths, personalised logos, explanatory and symbolic icons, maps and calendars, and graphs and tables, to name a few.

Concerning essentially scholarly and scientific contexts of digitally-mediated communication, the variety and number of multimodal studies is also growing, since "the confinement of academic knowledge to the boundaries of the written text is more and more challenged these days" (Maier and Engberg 2013: 149). The additional, complementary or reversing meanings that can be operated at the juncture of pragmatic and multimodal processes are very much focused, in digital genres of specialised discourse, on the interplay between the verbal and the visual modes. This intersection may help support, expand and alter the intentions of digital users. Although other modes are also compatible, and to a certain extent exploited, in digital genres within this context, such as the auditory mode in videos, the visual mode is currently

governing the trends of users' digital practices when communicating online for scholarly and scientific purposes. Yus (2019: 4) emphasises the general potential of such combination by putting forward that "on the internet, very often text and picture influence each other so that the eventual interpretation conveyed cannot be obtained from the partial meanings of text and image taken separately, but only from the combination of both to yield new non-literal interpretations of their referents".

A field of study particularly fruitful in attempting to look into the meaning making processes enabled by non-verbal modes in academic settings has been **metadiscourse**. Departing from well-established frameworks of metadiscourse (cf. Crismore 1989; Vande Kopple 2002; Hyland 2005; Ädel 2006; Ädel and Mauranen 2010), it has been perceived that adjustments are needed to account for the use of metadiscourse in digital genres and communicative events, in which non-verbal modes are essential carriers of meaning. Recent attempts have tried to fill this gap by investigating, from a metadiscursive perspective, pictures in company annual reports (de Groot et al. 2015), visual elements of academic posters (D'Angelo 2016), multimodal elements within academic lectures (Bernard-Mechó 2017), online academic papers (Carrió-Pastor 2021) and Twitter accounts held for Research Dissemination Purposes (Pascual and Mur-Dueñas 2022; Mur-Dueñas and Pascual 2023).

Among the wealth of digital settings that have recurrently sparked researchers' interest as for their multimodal design and potential, **the website** stands out for its flexibility and complexity. In websites, multimodal ensembles made out of verbal and visual elements are inserted in the layout configuration that users design. Multimodal analyses of websites have opted to narrow their frame to specific texts or webpages within the website (e.g. *Homepage*) or concentrate on disciplinary or thematic criteria. Hence, scholarly work has conducted multimodal analyses upon hotel homepages (e.g. Chen 2016); university websites (e.g. Tomaskova 2015; Zollo 2016), commercial websites (e.g. Fernández-Vázquez 2020); corporate homepages (Hassan 2012); children's websites (e.g. Djonov 2008) and scientific websites (Corona 2021). Nevertheless, a combined multimodal pragmatic account of these websites is still to be undertaken.

Users' pragmatic intentions are also intrinsically present in the ways a website builds its architecture, organising content in selected orders and exploiting the technical and communicative affordances at users' disposal (e.g. interactivity, navigability –see Figure 4.2 for a complete spectrum of the affordances). The choice to frame some elements in websites over others responds to the communicative purposes of their *writers*, and add up illocutionary functions that may be taken up by *readers*. As such, an underlying idea to pragmatic analysis of digital texts and genres beyond the purely verbal mode is, as would be from other analytical perspectives, that "a shift from the single mode of written language to multimodal texts that include extensive design and visual elements requires a parallel shift in the strategies and skills required by readers" (Serafini 2010: 86). The literacies and skills of digital users in general, and researchers and scientists in particular, may need to be expanded in situated scenarios of digitally-mediated communication when confronting multimodal texts, and especially when understanding the pragmatic phenomena encapsulated in those texts.

The page-flow in specialised websites is constructed by interspersing verbal descriptions with a number of semiotic modes and multimodal resources, among which the visual mode stands out. The mutual entente between verbal texts and pictures in specialised communication may bring about further effects complying with purposes of informativity, visibility, reputation, identity, self-branding and interaction. In the end, this is accomplished by maximising the intended meaning through multimodal ensembles and pointing out 'sites for action' (Adami 2015) and 'navigating paths' (Askehave and Nielsen 2005), through which users can enhance their experience in consuming such texts.

Multimodal resources in these websites comprise text-typographic ones, like headings and captions, graphic ones, like photos, diagrams and maps, and diagrammatic ones, such as icons and arrows. Additionally, typography may play a crucial role in the multimodal orchestration of websites. Interpretations of typography can be made from both pragmatic and multimodal lights. In the former, they "hinge on the shared semiotic and graphic knowledge of the communicators" functioning "as 'contextualization cues' to this knowledge", whereas in the latter, they are "tied to both modes and media used in the semiotic product", so they need "to be modelled in its coherent ties to other modes and will essentially reflect the potential of the medium" (Stöckl 2014: 293). The use of colour, bold font and italics and the deployment of full capitalisation all have pragmatic implications in how users encode and convey their intentions through these digital texts. Concerning pictures, low and high modality pictures are combined, and other types of images may also be exploited, such as logos, banners and slides. Some of these meanings stemming from the purposeful use of multimodal elements in the objects of study of this PhD thesis, namely research project websites (RPWs) and Twitter for Research Dissemination Purposes (TRDP), are encompassed in the formulation of some data-driven pragmatic strategies, as will be detailed in Section 5.1.

In this part of the Theoretical Framework, I have attempted to review the investigations undertaken in the field of multimodality, as much as the pertinence and suitability of endorsing multimodal approaches for the study of digital discourse. Kress and van Leeuwen's model, GeM and MDA have been remarked as fundamental contributions in this direction. Next, I have considered it necessary to provide definitions and relations of the main concepts at work in multimodal analysis (e.g. modes, media, multimodal ensembles, clusters, hypertexts, interactivity). The last part of this subsection has delved into the necessity to systematically aggregate multimodality into pragmatic theories and analyses, where there is still a pending gap, especially concerning disembodied multimodal communication. I have pondered the notion of *Digital Multimodal Pragmatic Analysis* (DMPA) as an exploration to a new field of study that could fulfil this niche, and which will be put into practice in Subsection 5.2.4 with the multimodal analysis of research project *Homepages*. In all, the discussion and explanations provided so far aim to acknowledge the ends of Multimodality as a separate research area from Linguistics and Pragmatics, in that it can by no means be largely "seen as a kind of 'Linguistics-Plus' approach, an optional analytical layer over existing linguistic paradigms" (Jewitt et al. 2021: 3).

Bearing in mind the different theoretical approximations expounded in this PhD thesis, I seek to provide a response to the following three main research questions, which I further disclose in more specific questions:

Research Question 1. Which situated pragmatic strategies stand out in research groups' digital practices for the communication of their international projects?

1a. How are Research Project Websites (RPWs) and Twitter accounts for Research Dissemination Purposes (TRDP) conceptualised?

1b. In what ways are they employed by research groups to meet their pragmatic intentions for knowledge dissemination and identity construction?

Research Question 2. How is the saliency and frequency of research groups' pragmatic strategies affected by the particular digital practices they endorse?

2a. Are there differences in the usage of pragmatic strategies in research project websites or in Twitter accounts?

2b. If so, what rhetorical and discursive divergences can be identified as for their pragmatic use to disseminate a research project?

Research Question 3. How does the multimodal interplay between the verbal and other modes contribute to enabling pragmatic intention in research project websites, especially in the homepage?

3a. In which ways are pragmatic strategies enacted in research project websites through multimodal semiotic resources?

3b. Which multimodal elements and layout are exploited in research project *Homepages* to support the deployment of pragmatic strategies?

In the following chapter, I go through the methodological process adopted in this PhD thesis. To that end, I present the criteria and features of the EUROPRO Digital Corpus (Section 3.1), which include the RPWs and TRDP under analysis. Then, I ponder the suitability of taking a mixed-method approach for the analysis of pragmatic strategies in digital settings and of revisiting the taxonomy of data-driven strategies designed for this study (Section 3.2). Lastly, I advocate for Ethnography as a powerful asset to retrieve contextual information and enrich pragmatic analyses and I disclose the protocol of semi-structured interviews (Section 3.3).

Chapter 3

A mixed-method data-driven approach

This chapter is aimed at describing and justifying the methodology employed to carry out the analysis of pragmatic strategies in international scientific communication through the specific use of project websites and Twitter –as a representative of social networks. Section 3.1 is devoted to the presentation of the corpus under inquiry: the EUROPRO Digital Corpus. Characteristics of the texts are disclosed and criteria for compilation are specified, to advocate for its representativeness within the spectrum of scientific communication and its pertinence in the current academic panorama. Metadata about the corpus are expounded and information about how the corpus was collected, stored and filtered is shared. Then, the subcorpora within EUROPRO are described: EUROPROwebs comprises the research project websites and EUROPROtweets includes the Twitter accounts of the projects. Section 3.2 focuses on the mixed-method approach to the pragmatic study of research groups' digital scientific practices. It settles the overall procedure for the exploration of the corpus, and presents the three principal stages in the analytical method followed. First, derived from the corpus data, I designed a taxonomy of pragmatic strategies which were then classified into different macrocategories. Second, I coded the EUROPRO Digital Corpus by applying such taxonomy using the NVivo software. Third, I carefully revised the taxonomy and the analysis to maintain a sufficient level of rigour in such processes and to avoid subjectivity in my decisions. 'Data saturation' was attained and reliability tests performed in that endeavour. Section 3.3 delves into the ethnographically-oriented perspective that complements the textual, pragmatic and multimodal analysis. Some brief theoretical tenets are put forward to understand why ethnography is essential in pragmatic studies, which is the angle taken for this PhD thesis. Finally, the protocol for the semi-structured interviews conducted with informants is accounted for, and the set of questions proposed is presented.

3.1. The EUROPRO Digital Corpus

In order to provide an answer to the research questions that drive this PhD thesis, the pragmatic analysis undertaken has been applied to the EUROPRO Digital Corpus, which is presented in this section in detail, alongside the justification of the criteria that were chosen for its compilation. As digital academic communication is gaining increasing value in the daily practices of scientists and researchers, a more fine-grained context was selected to explore their current pragmatic and discursive practices. Accordingly, the focus was narrowed down to the European Horizon2020 programme, as the leader R&I funding programme in the EU for the period between 2014 and 2020 and, therefore, as a trustworthy, representative landscape of the implementation of international research projects thanks to public expenditure. The corpus, then, aspires to analyse digital texts created and managed by international scientific research groups for the construction of new knowledge and the dissemination of scientific information online, both as related to their research projects.

As Figure 3.1 below illustrates, all these texts are hosted in the EUROPRO Repository, which was collected by the InterGedi research group and which is online and collectively shared for its use[6]. The repository includes three main collections: a database, a digital corpus and an archive containing documentation. The first two are intended to represent the digital practices in vogue developed by international research groups as part of the Plans for the Exploitation and Dissemination of Results (PEDR) for their funded projects. The third one provides a contextual basis about the funding programme to understand what it offers and how it works.

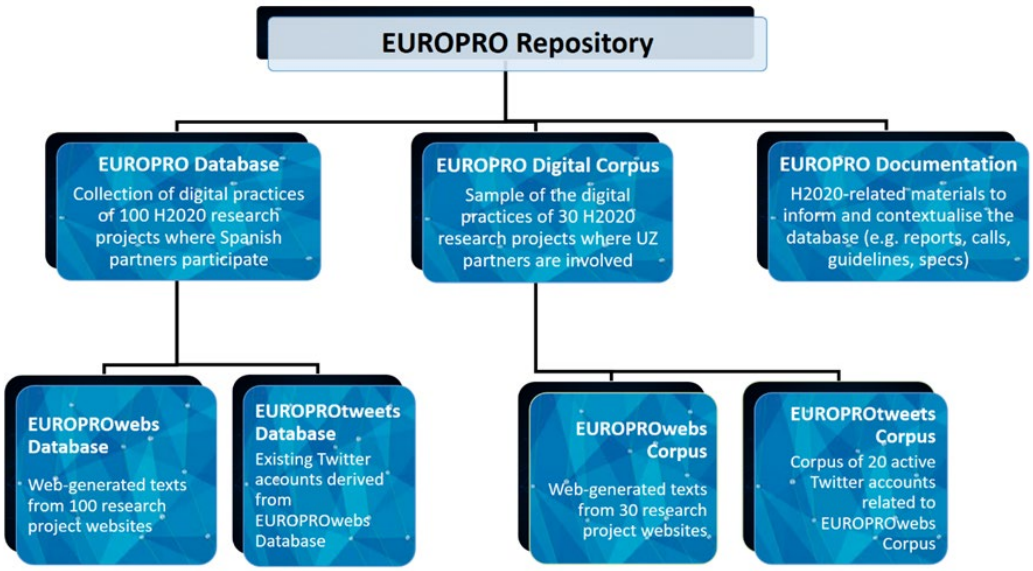


FIGURE 3.1. Visual representation and description of the EUROPRO Repository, Database and Corpus.

[6] The EUROPRO Repository was collected by the InterGedi research group (Interpersonality in Digital Genres), of which I am a research member. Such an endeavour was carried out for the development of the research competitive project "Toward the visibility and dissemination of scientific research: A linguistic, rhetorical and pragmatic study of digital genres in English as a language of international communication", financed by the *Ministerio de Economía, Industria y Competitividad, Gobierno de España* (FFI2017-84205-P).

Both the EUROPRO Database and the Digital Corpus contain the most prolific instantiations of research project communication in the current trends identified[7]: on the one hand, research project websites, which are web-generated texts where the key information about the project is gathered and updated. On the other, Twitter accounts held for research projects, which epitomise the use made of social media by research groups to regularly post new information about their joint investigation[8]. The database was employed in this study as a 'larger reference' collection of texts containing the two digital settings under scrutiny in a sample of Horizon2020 100 research projects. Criteria to choose them included a temporal variable, since they had to be concomitant to the development of the InterGedi first research project (starting in 2017), and an institutional variable, as one Spanish institution or university was involved as a member in these project consortia. Out of the database emerged the EUROPRO Digital Corpus, which contains the texts compiled from 30 out of the 100 research projects. Full disclosure of these research projects is provided in Table 3.1, where the acronyms of the projects can be consulted, together with the entire title proposed for the project and the start and end dates. The corpus consists of the websites scientific research groups create and maintain for their projects (EUROPROwebs subcorpus) and the texts published in social network accounts of these projects, specifically Twitter (EUROPROtweets subcorpus). The aim of both digital genres is hypothesised to be two-fold and complementary: i) to promote the visibility of the research project towards a wider audience and a series of societal agents and ii) to cater for the accountability of the research consortium towards the funding body that granted financing for such projects. A more careful account of the EUROPROwebs and EUROPROtweets subcorpora is respectively offered in Subsection 3.1.3 and Subsection 3.1.4 below.

Concerning the EUROPRO Documentation, this branch of the repository includes metadocuments where information is shared about the Horizon2020 programme and where the responsibilities and benefits that research groups may take are highlighted. It is then a helpful source of input to amplify the knowledge about such funding programme in particular (and the working of funding programmes in general) and to raise awareness of the efforts made to guide the research projects being granted. Subsequently, the type of texts collected comprises reports, calls, guidelines and specs (specifications, meaning detailed descriptions of how something should be or has been done). The emphasis of the documentation was primarily placed on texts featuring instructions and recommendations geared towards the communication of the projects and the dissemination of new knowledge, but also includes texts describing technical information

[7] Detailed information about the EUROPRO Digital Corpus and Database can be consulted in Pascual, Mur-Dueñas and Lorés (2020). In that research article, general aspects about the compilation and treatments of such a corpus and database for a variety of research purposes are elaborated on. This PhD thesis mostly delves into the issues deemed pertinent for the study of the EUROPRO Digital Corpus and the pragmatic analysis of research groups' digital practices.

[8] An attempt was made to retrieve examples of individual research blogs as a further digital setting that could be worth investigating for the communication of scientific knowledge and research projects. This was thought to cater for an *individual* facet of researchers' identity which could complement the *institutional* facet portrayed in RPWs and the *social* facet constructed in SNSs. An online survey was launched by e-mail to contacts (i.e. research projects and researchers) from the EUROPRO Digital Database. Yet, the answers received about the use of blogs overall indicated the apparently low presence of such digital practice for individual purposes within the particular context of research project communication, and, consequently, this individual facet was not incorporated into the study

Project code[9]	Project name	Full title of the project	Start / End dates
IRP01	AGROinLOG	Demonstration of innovative integrated biomass logistics centres for the Agro-industry sector in Europe	01/11/2016 – 30/04/2020
IRP02	BuildHEAT	Standardised approaches and products for the systemic retrofit of residential Buildings, focusing on HEATing and cooling consumptions attenuation	01/09/2015 – 31/08/2019
IRP03	CIRC-PACK	Towards circular economy in the plastic packaging value chain	01/05/2017 – 30/04/2020
IRP04	COSMIC	European Training Network for Continuous Sonication and Microwave Reactors	01/01/2018 – 31/12/2021
IRP05	DICE	Developing Data-Intensive Cloud Applications with Iterative Quality Enhancements	01/02/2015 – 31/01/2018
IRP06	DISIRE	Integrated Process Control based on Distributed In-Situ Sensors into Raw Material and Energy Feedstock	31/01/2015 – 31/12/2017
IRP07	FieldFOOD	Integration of PEF in food processing for improving food quality, safety and competitiveness	01/04/2015 – 31/03/2018
IRP08	FLEXICIENCY	Energy services demonstrations of demand response, FLEXibility and energy effICIENCY based on metering data	01/02/2015 – 31/01/2019
IRP09	greenGain	Supporting Sustainable Energy Production from Biomass from Landscape Conservation and Maintenance Work	01/01/2015 – 31/12/2017
IRP10	HARMONI	Harmonised assessment of regulatory bottlenecks and standardisation needs for the process industry	01/08/2017 – 31/10/2019
IRP11	IBSEN	Bridging the gap: from Individual Behaviour to the Socio-tEchnical MaN	01/09/2015 – 31/08/2018
IRP12	MEDEAS	Guiding European Policy toward a low-carbon economy. Modelling Energy system Development under Environmental And Socioeconomic constraints	01/01/2016 – 31/12/2019
IRP13	MODCOMP	Modified cost effective fibre based structures with improved multi-functionality and performance	01/04/2016 – 31/03/2020
IRP14	ORCHID	Organ on Chip in Development	01/10/2017 – 30/09/2019

[9] The criterion to code the international research projects selected is arbitrary and complies with the following order: IRPs which proved to hold a Twitter account were listed first in alphabetical order; the remaining IRPs were placed after them also in alphabetical order. Such a decision was thought to favour order and clarity in the presentation of metadata and the discussion of examples from one and the other digital practices. From this point onwards, the codes for the projects will be chosen over the acronyms to refer to the projects.

IRP15	SCOoPE	Saving COOPerative Energy	01/04/2016 – 31/03/2019
IRP16	SIMPLA	Sustainable Integrated Multi-sector PLAnning	01/02/2016 – 31/01/2019
IRP17	TBVI	Advancing novel and promising TB vaccine candidates from discovery to preclinical and early clinical development	01/01/2015 – 31/12/2018
IRP18	TRIBE	TRaIning Behaviours towards Energy efficiency: Play it!	01/03/2015 – 28/02/2018
IRP19	TROPICO	Transforming into Open, Innovative and Collaborative Governments	01/06/2017 – 31/05/2021
IRP20	Waste2Fuels	Sustainable production of next generation biofuels from waste streams	01/01/2016 – 31/12/2018
IRP21	ADREM	Adaptable Reactors for Resource- and Energy-Efficient Methane Valorisation	01/10/2015 – 30/09/2019
IRP22	AIDA2020	Advanced European Infrastructures for Detectors at Accelerators	01/05/2015 – 30/04/2020
IRP23	Feel4Diabetes	Developing and implementing a community-based intervention to create a more supportive social and physical environment for lifestyle changes to prevent diabetes in vulnerable families across Europe	01/02/2014 – 31/08/2019
IRP24	Indus3Es	Industrial Energy and Environment Efficiency	01/10/2015 –30/11/2019
IRP25	MIGRATE	Massive InteGRATion of power Electronic devices	01/01/2016 – 31/12/2019
IRP26	SteamBio	Flexible Superheated Steam Torrefaction and Grinding of Indigenous Biomass from Remote Rural Sources to Produce Stable Densified Feedstocks for Chemical and Energy Applications	01/02/2015 –31/07/2018
IRP27	SuperSmart	Expertise hub for a market uptake of energy-efficient supermarkets by awareness raising, knowledge transfer and pre-preparation of an EU Ecolabel	01/02/2016 – 31/01/2019
IRP28	uP_running	Take-off for sustainable supply of woody biomass from agrarian pruning and plantation removal	01/04/2016 – 30/06/2019
IRP29	VULKANO	Novel integrated refurbishment solution as a key path towards creating eco-efficient and competitive furnaces	01/07/2016 – 31/12/2019
IRP30	WADI	Innovative Airborne Water Leak Detection Surveillance Service	01/10/2016 – 31/03/2020

TABLE 3.1. List of H2020 projects from the EUROPRO Digital Corpus and their corresponding acronyms.

about how the projects had to be organised and how the expenditure should be handled. As follows, I recapitulate in a short list some of the texts that make up the EUROPRO Documentation for the sake of clarity:

- EU Grants AGA – Annotated Model Grant Agreement
- Communicating your project in Digital Excellence & Science Infrastructure
- Communicating EU research and innovation guidance for project participants
- Dissemination and Exploitation in Horizon2020. H2020 coordinators' day
- Quick guide and tools for Communication, Dissemination and Exploitation
- The EU Guide to Science Communication (YouTube channel)
- Guidance: Social media guide for EU funded R&I projects
- Making the Most of Your H2020 Project: Boosting the impact of your project through effective communication, dissemination and exploitation
- Guidelines for open access to publications, data and other research outputs

3.1.1. Description of a specialised corpus

As stated at the beginning of this chapter, the EUROPRO Digital Corpus was compiled in order to explore some of the current researchers' and scientists' digital practices, and allowed me in this PhD thesis to analyse the pragmatic strategies employed by international research groups and observe representative and meaningful patterns and tendencies about the communication of their projects. Therefore, certain common characteristics needed to be shared by texts included within the corpus. Instead of dealing with a corpus already built, intended for general use, and extracting items for analysis from it, it was necessary to collect fitting digital texts following a number of negotiated criteria –which are displayed below. This implies that this PhD thesis is centred on a *project-related* corpus, as opposed to corpora for general use (Beißwenger and Störrer 2008) or, if we prefer, that the World Wide Web has been employed *for* a corpus and not *as* a corpus (De Schryver 2002; Fletcher 2011). The overriding idea of these notions lies in the fact that an empirical basis is laid with which to seek an answer to research questions of a particular project, contrary to the idea of a corpus as a data pool with which to investigate various general research questions. Yet, it is a much harder task than we can imagine to compile a self-designed corpus utilising material from the online medium, which is simultaneously bountiful and chaotic[10]. Such a concern in constructing a corpus of digital texts was already pinpointed by Sinclair (2005b:

[10] The amount of software programmes, applications and browser extensions that may ease the task of compiling digital corpora is growing at fast pace, but there are some boundaries and constraints that remain unsolved for the automatic and accurate collection of large bodies of text. Some of these tools include SketchEngine and NCapture, but they are only partially useful in the collection of elements other than purely verbal (plain) text in complex documents. Thus, they may not be really efficient in faithfully storing the layout composition and multimodality of digital genres. Other options such as CLaRK and TextDirectory demand skills to master Java and XML programming languages and were, therefore, discarded for the purposes of this study.

n.p.), who contrasted the original conception of corpus as a hard copy with the cyber-nature of corpus taken from the web:

> A corpus expects documents (including transcripts) to be discrete, text to be linear and separable from non-text, and it expects documents to fall into recognisable sizings, similar to hard-copy documents. A normal corpus has no provision for hypertext, far less flashing text and animations. Hence all these familiar features of the Web are lost unless special provision is made to retain them. […] At present it is important to know precisely what is actually copied or downloaded from a web page. This is not always obvious, and quite often it is not at all the document that is required. The "source" file, which contains all the mark-up, is easy to download but difficult to handle; "text-only" or "print-friendly" versions of a page can be helpful. […] The cheerful anarchy of the Web thus places a burden of care on a user, and slows down the process of corpus building. […] consistency is a great virtue as a corpus gets larger, and users of a corpus assume that there is a consistency of selection, processing and management of the texts in the corpus.

The outcome of bearing in mind these claims was inevitably the manual compilation of a rather small-scale corpus where the "original format" of the texts mentioned in the quotation above could be kept. A further consideration to support this decision was that "at the present time, the assortment of large accessible corpora that were exclusively designed for analyzing CMC phenomena is rather unsatisfactory. Therefore, for empirical studies, corpora often have to be individually acquired from the Internet or obtained from users of CMC facilities" (Beißwenger and Störrer 2008: 4). In a further distinction, the corpus used for this PhD thesis follows a *balanced or sample corpus* approach, instead of being a monitor corpus, because it carefully reflects discursive and linguistic evidence as occurring at a given point in time. It is then constructed according to a specific sampling frame, instead of continually expanding to gradually include more texts over time (McEnery and Hardie 2012).

Another big step concerned the establishment of a 'sampling frame' with which to recognise and distinguish "a specific population that one wishes to make generalisations about" (Meyer 2002: 42). To find out about the projects that were ultimately included within the corpus –and by extension within the database– a 'convenience sampling' was opted for (Pascual, Mur-Dueñas and Lorés 2020). This is a non-probability sampling technique in which the sample is retrieved *ad hoc* and accidentally rather than through a systematic, probabilistic manner. The website of CORDIS launched by the European Commission to bring together EU research results was employed to select the projects in the EUROPRO Digital Corpus. For the construction of the EUROPRO Database, extant Internet traffic was also utilised: projects were discovered and selected based on the research project websites of other projects within the corpus, as well as by looking into the followers and mentions in their social media accounts. In this sense, the procedure entailed a sort of 'snowball effect' which was used to grow the database, as long as projects complied with the agreed compilation criteria that I will hint at in Subsection 3.1.2.

For the description of the EUROPRO Digital Corpus, the approach advocated for by Sinclair (2005a) seemed holistic and cohesive, insofar as a corpus needs to be framed within a number of external variables to guarantee its representativeness and coherence. According to the author, these necessarily comprise (a) the mode and the type of the texts, (b) the domain those

texts belong to, (c) the language they are written in, and (d) the location and the time of the texts selected.

The **(a) type of texts** contained in the corpus are foremost characterised by being digital and verbally-based. By **digital**, we should understand that they are web-generated and web-hosted, that is, exclusively created within the web for their digital presence and hosted in the World Wide Web, yet through inner platforms and media. It is not possible to find equivalent paper-based texts of research project websites and Twitter accounts in analogue discourse. As a result, these digital texts present a different medium of communication that should be analysed as influenced by the new affordances and constraints they allow for users to negotiate. This idea is connected with Crowston and Williams' initial classification of digital genres into reproduced, adapted and emergent (2000) and Herring's subsequent distinction within CMC into familiar, reconfigured or emergent genres (2004), presented in Section 2.1. Texts conforming the corpus fall into the 'adapted/reconfigured' and 'emergent' categories, since they either display traditional offline genre conventions and add the leverage of web affordances, or are exclusively indigenous to the web and display a clear exploitation of digital features. Texts included in the project websites and tweets that have been regarded as simply 'reproduced/familiar' were not numerous within the EUROPRO Digital Corpus, but have been anyway discarded from my analysis. Instances of them were constituted by downloadable diverse materials about the project, articles published in journals and presentations delivered at conferences or other events –overall documents that are likely to be crafted in PDF format.

Although the verbal component seems to take over, multimodality is also a characteristic of such digital settings, in the belief that all texts are intrinsically multimodal as they merge with no exception various semiotic modes that interact with each other (Kress and van Leeuwen 2001). Texts within the EUROPRO Digital Corpus then frequently prioritise the verbal mode, but place it in combination with other modes, such as the auditory and the visual ones, through pictures, logos, emojis and videos. In other words, the corpus places its primary emphasis on **verbally-based** evidence, although it acknowledges the presence and significance of meaning-making elements stemming from other semiotic modes. Following the trends in the field of pragmatics pinpointed in Section 2.2, even when there seems to be an emphasis on exploring corpora of spoken data in a wide spectrum of contexts, especially in this discipline, a decline of these type of studies is foreseen in favour of texts serving to communicate online at a global scale, especially featuring a combination of multiple modes and media (Culpeper and Gillings 2019). Hence, verbal-based evidence will be discussed along with multimodal rendering when convenient and noteworthy. The ultimate reason for carrying out a text-based analysis lies in the fact that it seems a first logical step to understand more deeply scientific academic communication towards and interaction among a very heterogeneous audience on the net. The insights and results accomplished from the analysis can, therefore, be compared with those obtained from studies about 'primary output' academic communication (Puschmann 2015), mostly based on the abstract and the research article.

Secondly, as briefly mentioned in the introduction to this subsection, two different types of texts sharing similar characteristics, but presenting distinct specificities are comprised in the corpus. On the one hand, **websites** are complex recipients where texts are distributed in a number

of sections chosen by the authors and designers of the website[11]. Texts in websites greatly vary in length, layout, register and style, and are permeated by multimodal elements such as pictures, videos, icons and logos, all of which results in a high degree of variability, even if they may convey similar communicative purposes to related target audiences. The research project website is analysed as a generic instantiation of the website as a general category. On the other hand, **tweets** are clearly limited by the affordances of the medium where they are inserted. A tweet is a text of up to 280 characters, which quite exerts an influence on the text author. Although the use of Twitter as an SNSs is frequently individual and originally conceived for non-professional purposes, this PhD thesis shows a clearly delimited maximisation of Twitter for academic communication and, in this specific case, employed for collective endeavours. Such statements triggered by the technological and medial possibilities that surround and inevitably shape the texts from the corpus should be taken into account as a potential cause affecting the use, frequency and realisation of pragmatic strategies in those texts.

Regarding **(b) the domain of the texts**, the EUROPRO Digital Corpus is framed within specialised communication and, more specifically, digital academic practices directed at knowledge construction and science dissemination. The corpus is then intended to incorporate a novel approach for combining the double perspective of texts belonging to IRPs, which are therefore collectively authored, with the use of digital settings for professional and dissemination purposes. The projects, from which texts have been collected and investigated, revolve around a vast number of topics and concerns, including, but not limited to, biomedical sciences (e.g. vaccination, chip technology, lifestyle habits), environmental sciences (e.g. energy management, renewable energies, sustainability), engineering sciences (e.g. improvement of reactors and sensors, urbanism, industrial efficiency, food processing), social sciences (e.g. collaboration infrastructures, sociological behaviours, circular economy, community cooperation). The research fields of such projects cannot be seen as discipline-specific and should be treated, instead, as imbricated in the phenomena of interdisciplinarity and globalisation that characterise today's investigation and innovation. This is the reason why a disciplinary criterion for the selection of the corpus was rendered not fruitful nor accurate in the analysis of discursive practices and pragmatic strategies, and was thus overlooked. On the whole, the interplay of the above mentioned aspects may be uncovered in the patterns, conventions and registers of the texts, which will deploy a specialised sort of language and an array of technical terms corresponding to their respective projects that may greatly depart from everyday face-to-face synchronous interactions. To this effect, this PhD thesis seeks to cover a new gap barely explored in the discipline of pragmatics, insofar as it points at the study of pragmatic strategies in scientific digital texts.

The third aspect to bear in mind is **(c) the language of the texts**. Texts in the corpus may be written in many languages –given the varied linguacultural background of the members

[11] Web sections are expected to follow a content criterion, as unifiying blocks of information in which a specific communicative purpose is accomplished and selected information about a number of topics is included. Webpages are, in turn, a stratum of organisation within the World Wide Web (cf. Brügger 2009). To that respect, a web section responds to the architecture chosen to design a website, whereas a webpage is the technical, material asset to create texts (of the corresponding web sections) online. A web section may be perfectly made up of multiple webpages that are nested within the former and connected though hypertexts.

constituting the research group–, but are typically produced in **English.** This decision is justified in two supplementary ways. Firstly, English is logically fostered because the texts of the corpus are crafted and published by international research groups, that is, members from different sociocultural and institutional backgrounds are presumably involved in their creation and are accountable to the users that consume them. Such geographical and linguistic diversity triggers the use of English as a Lingua Franca (Jenkins 2007; Seidlhofer 2011; Mauranen 2012) or English as an International Language (Sharifian 2009; Matsuda 2012; McKay and Brown 2016). Hence, the use of English as a vehicle facilitates global communication among both native and non-native speakers of the language as the common language shared by all the researchers, enabling interaction among them and dissemination of the project information they consider appropriate.

Secondly, English also allows reaching a wider sample of the population, increasing exponentially the potential audience that may consume the texts they publish and benefit from the project. The use of English fosters the wide visibility not only of the project, but also of the researchers involved, and may have positive rewards in their professional careers and academic reputation. The advantage of English to broaden the scope of recipients of project-related data is decisive for them to publish most of their texts in this language. Yet, if they want to address specific, more local sectors of the audience, they may use other languages, which in most of the cases coincide with the researchers' mother tongue and the national language in the country where the coordinating institution of the project is based. In research project websites most of these texts are available in simultaneous versions of the content, placed in the same web interface. In Twitter, languages are intermingled when information particularly affects a specific portion of the readership, normally connected with local impact and outreach at regional and national levels. The website versions in other languages have not been incorporated into the EUROPRO Digital Corpus. Although small in quantity and varying from one project to another, tweets written in other languages, especially Spanish, have been included in the corpus, not to bias the purposeful occurrence and relative frequencies of the pragmatic strategies analysed.

At last**, (d) the location and date of the texts** was deliberated prior to corpus compilation. The identification of geographical location of the texts was difficult to uncover, and perhaps insignificant given the international frame where the texts from the corpus are inserted. A limit that can be set regarding the location of the texts involves the European Union as the landscape where these projects are born and developed. Yet, it is the global nature of this type of scientific digital communication that characterises these texts. They are accessible from any part of the world at any time –more concretely in an asynchronous kind of interaction, and produced by scholars and scientists that work in many parts of the world in a joint project of international scope and prestige. The date of the texts was indeed carefully considered in order to represent current trends and evolutions in researchers' discursive practices. All the texts are dated in the last 5 years (2017-2021) to meet such goals. Retrieving such temporal information was relatively easy, as information about the start and end dates of the projects is publicly available (see Table 3.1 above), and frequently recorded in some of the texts, such as news posts and tweets.

This subsection has targeted the description of the texts deriving from the international projects that make up the corpus for this study. Information about the EUROPRO Repository has been provided, and the IRPs have been contextualised. A number of variables shaping the texts have been pinpointed to better comprehend the corpus employed in this PhD thesis. In the next subsection, specific criteria and decisions made to compile and annotate the EUROPRO Digital Corpus are shared to narrow down the analysis of pragmatic strategies in research project websites and tweets.

3.1.2. Methodological considerations for corpus compilation

The compilation of the corpus was guided by a series of methodological criteria that allowed fencing the selection of projects. As indicated at the end of the previous subsection, a **temporal criterion** was key to try to stand for current practices of scientific digital communication. In order to have a comparable set of texts, only projects matching at some point of their development with my doctoral project, starting in October 2017, were included. This means that, even when projects may be at different stages in their research progress and dissemination of results, they all follow similar paths as regards the texts incorporated in their project websites and Twitter accounts. Such a criterion has proved to be consistent and cohesive, especially in the case of research project websites, because of the ambiguous date of the texts, which is extremely difficult to identify given the dynamic characteristics of this digital setting and the ongoing updates that it may go through[12]. Problems could then arise when capturing the texts for the pragmatic study, that is, when downloading them and saving them in text documents. To solve such a drawback, a static picture of the texts was taken at some point of my doctoral project. Such decision contributes to the appropriate download and archiving of the texts and the web-related data in the corpus (McEnerie and Hardie 2002). These *static snapshots* of the texts should be reckoned to be representative of the text in question, regardless of its potential elimination or modification, and are prone to an easier processing and analysis.

A **formal criterion** was also adopted in order to leave out research projects whose primary aim was other than contributing to R&I. Subsequently, only projects promoting excellent science, tackling societal challenges, enhancing industrial leadership and concerned with the communication of their results were picked out. Out of the 'snowball effect' stated earlier in connection with the convenience sampling, some research projects were found to be clearly focused on hiring PhD students and novel researchers, as well as on offering training through webinars and documents. As they showed no particular research mission linked to the values mentioned, these research project websites were rejected as part of the database. By the same

[12]There are some exceptions regarding this aspect, such as the texts contained in the *News and Events* sections of the RPWs, which are normally dated, although they may be subject for further subsequent modification, too. In any case, most of the texts in sections other than this do not display any temporal reference. Another exception can be found in the tweets, which always contain the date of publication, but which may expand beyond the time period granted for the project –either before or after it. Therefore, following a temporal criterion was helpful to set clear limits regarding the creation and distribution of the texts.

token, other research projects offered users repositories of information and communication infrastructures. These were also discarded for the final sample.

Eventually, an **institutional criterion** was also profitable for the election of the international projects in the EUROPRO Digital Corpus and for the purposes of this study. It involved the participation of my home institution, Universidad of Zaragoza, within the consortium of members of such projects. Therefore, tracking down the websites of the research projects and other H2020 documents was mandatory to ensure the collaboration of a colleague from the same university. This resulted in that at least one researcher working at the mentioned university was engaged in the development of the research project and in the periodic publication of the texts under analysis. In the case of the EUROPRO Database, such a criterion was also applied, choosing projects of which a Spanish university or institution was a member. The overriding idea behind this decision lies in the desire to transfer quality findings and implications of this PhD thesis at a local and national level, where (inter)national projects in Spain may take advantage of the results of this study. Moreover, following this criterion was thought to be useful to be able to reach informants, who could provide relevant information about the functioning of the project and the construction of the digital texts within the corpus. As will be explained in Section 3.3, this was used for qualitative analysis through ethnographically-oriented tools.

Some other methodological considerations were adopted once the criteria for corpus compilation were settled. The **retrieval** of EUROPRO Digital Corpus was carried out in two different ways. In order to compile the EUROPROwebs Digital Corpus, a manual technique was leveraged using the free software GreenShot, which is a light-weight programme for Windows that allows to take quick screenshots of selected regions and windows. Thus, it was employed to capture scrolling websites from the Internet and export them into Word documents. This decision is supported by the complexity in the organic nature of international project websites, as mentioned above, and the desire to retrieve both the verbal and visual modes that are entrenched in such texts. Accordingly, a fixed picture of the websites was taken at a certain point of the project development. Although I am aware that the dynamic nature of the websites and the ongoing updating of the project information by the research group may imply that the websites have at present a different configuration, this was a useful step to achieve *a version* of the websites. In order to compile the EUROPROtweets Digital Corpus, the Vicinitas online tool was utilised. Provided that one has a Twitter account, it enables researchers to track the history of Twitter accounts through the insertion of handles (i.e. usernames). Data from the Twitter accounts of the IRPs were exported into Excel documents, where metadata was also provided. The texts of the Twitter feeds were then converted to RTF documents in order to be processed and analysed using the NVivo Pro software.

The next step concerned the **storage and cleaning** of the texts. The organisation of the files followed a simple key: the code for the project was inserted and followed by an underscore and the name for either the web section or Twitter. Word documents containing the texts were then tagged as 'IRPX_Home', 'IRPX_About', 'IRPX_Partners', 'IRPX_News' and 'IRPX_Twitter'. In the case of websites, additional data were tagged for the position of the section within the website menu. '_sub' was incorporated when the sections appeared hosted in the unfolding options of the menu bar. '_emb' was added when the sections were included as part of

research project websites, but were not displayed in the main menu at all. These metadata enabled me to locate the source texts more easily and have a panoramic view of the position of sections in the EUROPRO Digital Corpus and Database[13]. Additionally, information in the footer was removed from all the sections except for the homepage, so as not to mislead the analysis of pragmatic strategies in this cluster. Duplicated information in the *News & Events* sections was also discarded, especially in relation to the newsbites which are typically offered in the main page of such a section and which give access to the full text through a hyperlink.

Metadata were annotated for both the EUROPROwebs and the EUROPROtweets Corpora. One focal point of such metadata concerned hyperlinks. Three sorts of hyperlinks were discerned:

- **Internal hyperlinks** (<link><int>), where the link leads users to a webpage housed within the research project website, thus attracting web traffic to their site.
- **Peripheral hyperlinks** (<link><per>), where the link drives readers to project-related webpages and documents which are hosted outside the research project website (e.g. online forms, social media profiles, PDF documents).
- **External hyperlinks** (<link><ext>), where the link redirects users to outer sources of information hosted in the World Wide Web that may be of interest to amplify the information about the project and its members.

Pictures featured in the texts of the EUROPROwebs corpus and attached at the end of the tweets in the EUROPROtweets corpus were also annotated to gain insights into their relation with the verbal evidence collected. An *ad hoc* classification was employed to divide pictures into 1) conceptual pictures, which are web-native (meaning that they are digitally designed) and symbolise terms and ideas related to the project and its characteristics, and 2) illustrative pictures, which represent realistic things of the world of the project. Each of these in turn can be further classified into thematic and allegorical pictures, which portray concrete and abstract ideas respectively embodying the mission and characteristics of the project, and personal and technical pictures, which depict the members of the project and its structure and the complexities of its functioning.

- **Conceptual pictures** (<pic><concept)
    - **Thematic** (<theme>)
    - **Allegorical** (<alleg>)
- **Illustrative pictures** (<pic><illustrat>)
    - **Personal** (<person>)
    - **Technical** (<tech>)

[13] The online tool WaybackMachine, launched by the non-profit organisation Internet Archive, was made use of when the source texts were no longer available or had expired, as part of the short-term life span of research project websites. WaybackMachine provides a digital library of Internet sites, so that sites can be consulted in their original format at specific stages of their development.

In the case of Twitter, metadata were included at the beginning of each tweet depending on the text type. Tags were added in the event that they constituted the initial presentation of the Twitter profile (<PROF>), as well as examples of retweets (<RT>), replies (<RE>) and threads (<THR>). When it was observed that the project had retweeted an original tweet published by themselves (for emphasis, as a reminder, etc.), these duplicated tweets were erased.

After the disclosure of the methodological criteria and decisions taken, the two subcorpora of the EUROPRO Digital Corpus are introduced in Subsection 3.1.3 and Subsection 3.1.4, respectively.

3.1.3. The EUROPROwebs Corpus

To explore the pragmatic strategies deployed in digital scientific communication, 30 project websites from international scientific projects within the European programme Horizon2020 have been included in the present corpus (see Table 3.1). As claimed in Chapter 1, the fact that maintaining a website for a H2020 project is a kind of requirement in exchange for obtaining funding turns the website into the principal recipient of information about the project. It can be assumed to be a compelling and engaging medium which is utilised to carry out the dissemination and communication plans of research projects and showcase the research undertaken:

> Websites have not only become commonplace for most types of information exchange, they are also an essential part of most marketing plans (and your Horizon 2020 project should come as no exception). Any future online marketing and communication activities which you will execute for your project should lead interested audiences to your website.
>
> Source: Enspire Science (https://euagenda.eu/upload/publications/guide-for-building-your-horizon-2020-project-s-website-for-funded-projects-under-horizon-2020-and-erc.pdf)

An observational analysis of the web sections which were recurrent in RPWs within the EUROPRO Database was carried out to then undertake the pragmatic analysis. Research groups' choices to tag their web sections can be consulted in Table 3.2, where seven main options are displayed. I have come up with unifying labels that encompass analogous and similar web sections. Nevertheless, the focus was narrowed down to pick only those sections regarded as part of the 'core status' of the website. To justify this decision, a cline was considered to be helpful based on the distinction into 'required/obligatory', 'optional/occasional' and 'irrelevant'. The web sections *Homepage, About, Partners* and *News & Events* are systematically configured, hence required or obligatory in the presentation of the project. Sections like *Work Packages, Publications* and *Contact* are not always featured in RPWs, or at least not as web sections on their own. These were accordingly removed from the final sample of texts. In the *Other* category, alternative web sections observed in the database have been recorded, which show an irrelevant presence and were likewise disregarded.

Unifying label for web sections	Labels in the EUROPRO Database
Homepage	*Home, Homepage, About*
About	*About, About the project, The project, About Us, Mission, Concept, Description*
Partners	*Partners, Consortium, Members, Team, Researchers*
News & Events	*News & Events, News, Events, Blog, Newsletter, Meetings*
Work Packages	*Work Packages, Pilots, Demo Sites, Actions, Activities, Solutions, Case Studies, Demonstrations, Applications, Working Blocks*
Publications	*Publications, Results, Output, Deliverables, Documents, Resources, Outcomes, Downloads, Guidelines, Links*
Other	*Model, Diagnosis Tool, Get Started, Get Involved, Networking, EU Market Place, Transnational Access*

TABLE 3.2. Labels to name website sections recorded in the EUROPRO Database.

Other decisions were taken with respect to the four web sections which are the focus of the pragmatic analysis of the EUROPROwebs Corpus. Taking the *About* section as a well-established genre in the literature, some such sections in the EUROPRO Digital Corpus were interestingly monitored to appear in split webpages. In such event, a principal webpage contains the project rationale and planned goals, and a subsequent webpage, hosted within the former or parallel to it, digs into deeper features of the project and its organisation. As such, this second *About* section provides an extended version of the main one, where more technical and specialised details are offered to users. In storing the documents of the corpus and for the sake of the pragmatic analysis, these cases were solved by putting both web sections under the label *About*, as their communicative purpose coincide, and not to do so might have biased the study of the pragmatic strategies. 18 RPWs demonstrate this preference. Altogether, the *ad hoc* corpus of *About* sections amounts to 29 such webpages (see Appendix I) and a total of 24,319 words with an average of 839 words per *About* section. One research group did not feature a proper *About* section for their project at the time the corpus was compiled and was consequently left out. Although the the menu comprised one section named in such a way, no specific webpage had been created to convey the mission of the project. Instead, when clicking on such a label, three embedded options unfolded leading users to the *Work Packages, Partners* and *News & Events* sections, respectively.

The *Partners* section was found to be designed following two clear models: research partners were presented either through extensive verbally-based descriptions and hypertextual presentations leading to partners' external websites. For the analysis of pragmatic strategies, only those which included verbal descriptions were incorporated into the *ad hoc* corpus of *Partners* sections. As can be consulted in Appendix I, 7 such sections were therefore discarded for doing without web-generated texts and directly providing the links for users to access the external (institutional or personal) websites of these partners –IRP4, IRP6, IRP14, IRP17, IRP19, IRP20 and IRP22. The total amount of words for the remaining 23 *Partners* sections is 56,347, with an

average of 2,449 words per *Partners* section and a range that goes from a minimum of 315 words (IRP15) to a maximum of 7,984 words (IRP25).

The *News & Events* sections were very dissimilar in their number of posts and in the length of the texts included. For the sake of comparability, a sample of 10 *News & Events* from each research project website was selected. This criterion was not met by two RPWs (see Appendix I), in that web-generated texts were barely created to share the events of the research project. Whereas IRP13 presented a hypermodal structure in such webpage, where the research group enclosed the external webpages of the events, IRP19 displayed a list of the project-related news and events with hyperlinks, and just included verbal texts in selected ones. They had to be removed from the final *ad hoc* corpus, which consists then of 28 *News & Events* sections featuring ten posts each. The total amount of words is 82,215, with an average of 2,936 words per *News & Events* section (and 293 per post published) and a word range between 1,046 in the case of IRP26 and 5,837 in the case of IRP05.

Finally, for the focused study combining the pragmatic analysis with a multimodal perspective, *Homepages* were compiled. Endorsing a generic perspective, as in the case of *About* sections, there were cases where the *Homepage* of the research project website precisely overlapped with the *About* section. It was the content included in this landing page and the visual configuration of the elements there included (into 'clusters') that informed the decision to treat such sections as *Homepages* or *About* sections. Overall, 26 RPWs displayed a *Homepage* where specific content was published as a preview of other sections and a general entrance page, and the remaining 4 research projects made the landing page of their RPW coincide with the section purposefully devoted to the *aboutness* of the project (IRP06, IRP10, IRP21 and IRP26). Curiously enough, the first three belong to the same network of research projects: SPIRE, a contractual public-private partnership.

3.1.4. The EUROPROtweets Corpus

International research projects are well aware that alternative current platforms and genres may help them expand their visibility and amplify their impact, beyond the project website. That is why they usually create social media profiles[14] in the belief that it is an effective measure to meet such goals. As compared to the strong emphasis on maintaining a project website, the creation of an account and the publication of regular updated texts is just recommended by the Horizon2020 programme, but not imposed to researchers. Therefore, I decided to compile a subcorpus of social media accounts (parallel to the one of RPWs) in order to broaden the scope about H2020 researchers' digital practices. The comparison of the EUROPROtweets Corpus with the EUROPROwebs Corpus will enable us to see similarities and divergences in the use of specific pragmatic strategies and discursive choices in these two media. This *a priori* hypothesis comes

[14] For the sake of clarification, the terms 'social media' and 'social networking sites' are mostly employed as synonyms in this PhD thesis, and in particular in reference to Twitter. Yet, differences could be argued in the conceptualisations of these two terms. On the one side, social media are platforms which act as a communication channel in a broader sense, enabling users to broadcast information. On the other, social networking sites emphasise platforms that facilitate a two-way nature communication for users to interact with one another. In that sense, Twitter seems to adhere to both notions.

from the acknowledgment of their distinctive fine-grained affordances and constraints, as explained in Chapter 2. Working with these two corpora –which complement each other because of their specific situated context and authors' ultimate communicative intents– may provide a more insightful picture about the range of patterns and the implications about the scientific digital communication fostered by international research groups.

The next question for the collection of social media texts was then which social media were most representative of H2020 researchers' preferences. Checking out the documents provided by the H2020 European Programme about the communication strategies projects can and should follow, a wide span of options is acknowledged –Facebook, LinkedIn, Instagram, even though Twitter stands out as the most commendable option (H2020 Programme 2018). To confirm this statement, an initial study was carried out about what the different social media project members had decided to set up and feed. This systematic analysis served to confirm or reject in my corpus the alleged general tendency about the salient role of Twitter indicated by the Horizon2020 programme. The research groups' accounts were retrieved from the project websites themselves and through Google searches.

Table 3.3 displays the results of this study. It should be noted that out of the 100 research projects in the EUROPRO Database, 10 of them decided not to maintain any social network account. Looking into the 90 projects left, we can clearly observe how Twitter is the reference social network for professional and research goals: 87 projects hold a Twitter account in the Database. This was decisive to prove the significance of this social medium over others, such as LinkedIn, which is the second preferred option (59) but does not allow users to have such a bidirectional relationship, and Facebook (35), which may be similar to Twitter in its purposes and affordances, but shows a much lower frequency in research groups' choices. YouTube and Instagram complete the top-five social media selected by the research groups for the communication of their projects, but play very specific roles that depend on the discipline and scope of the projects, especially in the EUROPRO Digital Corpus, where their use is much more limited. The 20 Twitter accounts present in the EUROPRO Digital Corpus (out of 30 possible projects) were the object of analysis. Overall, Twitter proves to be the most prolific social medium and, together with LinkedIn, evidences the professional and institutional purposes of the research project, as well as the interplay in the digital construction of the researchers' collective and individual identities.

	Social Media for Research Dissemination Purposes				
	Twitter	**LinkedIn**	**Facebook**	**YouTube**	**Instagram**
EUROPRO Digital Database (100 IRPs)	87	59	35	35	14
EUROPRO Digital Corpus (30 IRPs)	20	12	10	7	1

TABLE 3.3. Range of social networks chosen by H2020 researchers to disseminate their projects.

Apart from the ones captured above, recorded options in the EUROPRO Database show the appearance of other SNSs for a variety of aims, as they encompass presentation repositories (e.g. SlideShare, GitHub), publication sharing media (e.g. Academia.edu, ResesarchGate), image and video hosting platforms (e.g. Flickr; GoToStage, Vimeo, Pinterest), podcast applications (e.g. Spotify), instant messaging (e.g. WeChat) and others (e.g. OpenGeoHub). On the whole, it seems certain that researchers are increasing their online presence and actually see some potential and profit in maintaining a social network account that may allow a larger visibility and a greater level of interaction than other digital settings –like the project website itself. Even when this is not very meaningful in the EUROPRO Database, it can also be outlined that the emergence of some social media accounts within this context may hint at a growing development of innovative and purposeful practices by research groups, as well as at the increasing ubiquity of multimodality in the ways information is distributed and science disseminated.

Table 3.4 provides an overview of the principal data of the EUROPROtweets Corpus. The names of the projects holding a Twitter account are listed together with their Twitter hyperlinked user names. The number of tweets per account is provided (at the point when I ended the compilation of the corpus –December 2020), together with the total amount of words:

Project code	Twitter user name	No. tweets	No. words per Twitter account
IRP01	@AGROinLOG	88	1878
IRP02	@BuildHeatH2020	186	5924
IRP03	@circ_economy	806	28735
IRP04	@ETN_COSMIC	90	1986
IRP05	@diceh2020	212	4258
IRP06	@DISIRE_2020	48	767
IRP07	@FieldFOOD_H2020	71	1570
IRP08	@FLEXICIENCY	212	4068
IRP09	@greenGain_eu	49	793
IRP10	@Harmoni_H2020	48	1313
IRP11	@IBSEN_H2020	828	17553
IRP12	@ProjectMEDEAS	456	12700
IRP13	@comp_mod	9	213
IRP14	@organonchip	224	5175
IRP15	@SCOoPEproject	374	9456
IRP16	@Simpla_project	447	13961
IRP17	@TBVI_EU	174	3804
IRP18	@TRIBE2020	99	2374
IRP19	@tropico_project	149	4162
IRP20	@Waste2Fuels	155	3204
		4725	**123894**

TABLE 3.4. Usernames, number of tweets and total number of words of the EUROPROtweets corpus.

Significant differences in terms of productivity and interactivity were already found from the beginning, just by looking at the number of tweets or followers. Therefore, it did not seem appropriate to set a time span that could restrict the collection of the tweets. Moreover, the typology of tweets was annotated in the corpus to track down how research groups were making use of the different affordances of this social medium and is disclosed in Table 3.5:

Project code	Types of tweets			
	Original tweets	Tweets in threads	Replies	Retweets
IRP01	88	0	0	14
IRP02	186	4	0	79
IRP03	806	48	21	247
IRP04	90	2	1	18
IRP05	212	0	2	55
IRP06	48	2	0	8
IRP07	71	0	0	40
IRP08	212	1	6	17
IRP09	49	0	0	7
IRP10	48	0	1	12
IRP11	828	9	35	605
IRP12	456	9	15	217
IRP13	9	0	0	0
IRP14	224	0	13	150
IRP15	374	8	56	196
IRP16	447	0	8	162
IRP17	174	0	1	47
IRP18	99	0	0	32
IRP19	149	11	1	67
IRP20	155	0	0	9
TOTAL	**4725**	**94**	**160**	**1982**

TABLE 3.5. Typology of tweets published in the accounts of the EUROPROtweets Digital Corpus.

Retweets and replies were incorporated into the corpus because of the specific usage made by research groups for the communication of their IRPs, and to invite a more holistic analysis in this situated contexts[15]. Retweets are normally enacted to appropriate the content published in tweets posted by the research institutions and members that make up the project consortia. Moreover, information from the funding institutions is also retweeted as part of the project

[15] I am aware that the decision of computing retweets within a corpus can be controversial in some research studies and might be considered by some to bias the results obtained. Yet, such a decision was deemed beneficial in the EUROPROtweets Corpus, since the focus is on research groups' digital practices, and retweeting is undoubtedly one of the most recursive ones within the Twitter space. Moreover, the activation of retweeting also fosters the deployment of certain pragmatic strategies that would be otherwise omitted – as will be discussed and exemplified in Chapter 5.

background and rationale. It is interesting to observe that the use of threads to nest tweets and make them part of a longer conversation is very dissimilar throughout the EUROPROtweets Corpus. Whereas 11 research project accounts display no thread of tweets, only 6 of them seem to resort sometimes to this affordance in their feeds in proportion to the tweets published (IRP02, IRP03, IRP11, IRP12, IRP15, IRP19). Replies are also barely testimonial in some of the accounts of the corpus, and even 7 research projects demonstrate no interaction with their followers and readers in this respect. The accounts that featured a relatively high number of replies were IRP03, IRP11, IRP12, IRP13, IRP15 and IRP16, fostering dialogicity and bidirectionality towards the Twitter community.

Taking a glance at the languages in which the tweets from the corpus were written (Table 3.6), it is easily noticeable that the majority of them were published in English. Indeed, three Twitter accounts exclusively feature tweets in this language (IRP04, IRP06, IRP13). By contrast, two projects strikingly show that Spanish is actually the language favoured in their Twitter accounts to communicate with the audience. The category labelled as 'Other' comprised the remaining languages observed in the corpus, such as Italian, German, Greek, Dutch, Romanian, Portuguese, Danish, French and Catalan. Percentages are fairly low, but the case of IRP10 could be signalled, as 10% of the tweets are provided in languages other than English and Spanish.

Research project	**Languages**					
	English		**Spanish**		**Other**	
IRP01	81	92%	5	6%	2	2%
IRP02	182	98%	3	2%	1	1%
IRP03	765	95%	31	4%	10	1%
IRP04	90	100%	0	0%	0	0%
IRP05	204	96%	0	0%	8	4%
IRP06	48	100%	0	0%	0	0%
IRP07	70	99%	0	0%	1	1%
IRP08	209	99%	0	0%	3	1%
IRP09	43	88%	1	2%	5	10%
IRP10	45	94%	3	6%	0	0%
IRP11	569	69%	239	29%	20	2%
IRP12	443	97%	3	1%	10	2%
IRP13	9	100%	0	0%	0	0%
IRP14	218	97%	6	3%	0	0%
IRP15	49	13%	308	82%	17	5%
IRP16	432	97%	3	1%	12	3%
IRP17	172	99%	1	1%	1	1%
IRP18	90	91%	8	8%	1	1%
IRP19	144	97%	0	0%	5	3%
IRP20	152	98%	1	1%	2	1%
TOTAL	**4015**	**91%**	**612**	**7%**	**98**	**2%**

TABLE 3.6. Languages of the featured tweets within the EUROPROtweets Digital Corpus.

Figure 3.2 illustrates the total distribution of tweets based on the language chosen in the EUROPROtweets Digital Corpus. It is overtly clear that English exerts its influence as the lingua franca in academic environments (Mauranen, Hynninen and Ranta 2010; 2016). Only 15% of the tweets were written in a different language, Spanish being present in 13% of the tweets.

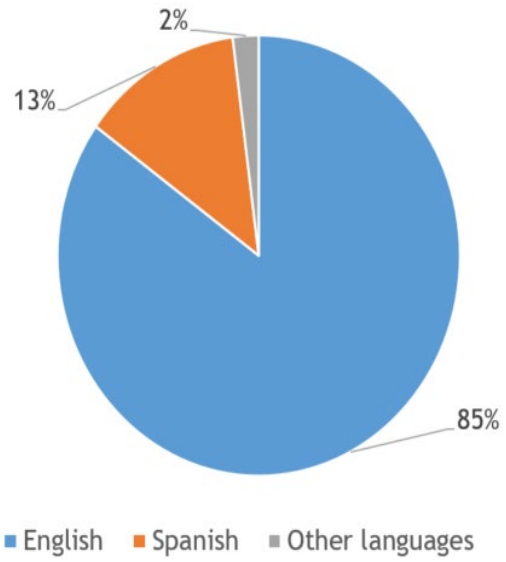


FIGURE 3.2. Representation of languages within the EUROPROtweets Digital Corpus.

Metadata in Table 3.7 below indicate multimodal and hypermedial resources leveraged by the research groups in their Twitter accounts. As could be expected, pictures predominate over videos and GIFs in the multimodal orchestration of the tweets. It is striking that 8 accounts feature no videos whatsoever, considering that at least a brief introductory video about the project is normally shared with users. 6 Twitter accounts also include GIFs at some point in their feed, IRP11 being the most prolific account in this respect. These multimodal texts may establish more informal and engaging bridges with the audience and may appeal to their curiosity and participation to a greater extent.

Concerning hypermediality, hashtags were more recurrently employed than mentions in the majority of Twitter accounts. 5 research groups, however, opt for the opposite choice and maximise the use of mentions to address other users (IRP01, IRP11, IRP15, IRP17, IRP19). Links were added in most of the tweets, in three accounts even outnumbering the number of mentions.

Research project	Multimodality			Hypermediality		
	Pictures	Videos	GIFs	Hashtags	Mentions	Links
IRP01	35	0	0	111	145	72
IRP02	173	2	1	449	231	136
IRP03	676	22	0	3078	1110	657
IRP04	46	1	0	243	126	67
IRP05	70	0	0	334	106	189
IRP06	7	1	0	38	39	34
IRP07	63	1	0	172	67	46
IRP08	126	0	0	180	170	161
IRP09	58	0	1	30	6	46
IRP10	51	0	0	91	47	29
IRP11	330	7	17	681	1099	627
IRP12	269	11	6	687	590	291
IRP13	1	0	0	2	2	6
IRP14	64	1	1	252	199	190
IRP15	335	8	0	734	1050	168
IRP16	374	28	7	2293	425	381
IRP17	88	0	0	215	229	83
IRP18	79	1	0	149	85	39
IRP19	85	5	0	195	226	99
IRP20	15	0	0	376	249	82
TOTAL	**2945**	**88**	**33**	**10310**	**6201**	**3403**

TABLE 3.7. Multimodal and hypermedial elements embedded in the EUROPROtweets Digital Corpus.

Hyperlinks were further annotated depending on the route they were assumed to activate –following the distinction between internal, external and peripheral presented above. Table 3.8 introduces the occurrences of hyperlinks in the EUROPROtweets corpus. The general trend is that the amount of external links offered to users is systematically higher than internal ones. Actually, in 7 cases, external links are at least twice as frequent as internal ones. Only in 4 accounts of the Horizon2020 research projects, internal links outnumber external ones (IRP04; IRP09; IRP10; IRP20).

Research projects	Total no. of hyperlinks	Typology of hyperlinks		
		Internal	Peripheral	External
IRP01	72	16	39	17
IRP02	136	29	17	90
IRP03	652	205	27	420
IRP04	67	47	0	20
IRP05	189	63	28	98
IRP06	34	10	5	19
IRP07	46	11	0	35
IRP08	161	24	33	104
IRP09	46	38	2	6
IRP10	29	15	7	7
IRP11	315	38	58	219
IRP12	290	74	7	209
IRP13	6	0	4	2
IRP14	190	16	4	170
IRP15	166	75	6	85
IRP16	381	97	84	200
IRP17	83	32	3	48
IRP18	39	14	4	21
IRP19	99	30	30	39
IRP20	82	57	15	10
TOTAL	**3083**	**891**	**373**	**1819**

TABLE 3.8. Number and typology of hyperlinks in the EUROPROtweets Corpus.

The insertion of peripheral links seems to be inconsistent across the data. IRP04 and IRP07 make no use of them to redirect the audience to their project-related matters. In IRP01, IRP08, IRP11 and IRP14, the occurrence of peripheral links is favoured over internal ones (and in IRP19 the numbers are equal). This may make us think about the literacies developed by research groups and their intention to interconnect their platforms and outlets. As such, the Twitter accounts where peripheral links are salient tend to put forward other social media accounts, their materials and deliverables in downloadable formats or calls for the participation of citizens through forms and surveys.

After the presentation of the EUROPROwebs and EUROPROtweets Corpora and methodological insights related to the description of the variables of the corpus, the criteria chosen for compilation and the metadata annotated, I introduce the mixed-method approach taken for the analysis of the EUROPRO Digital Corpus.

3.2. A mixed-method pragmatic approach to digital specialised discourse

The pragmatic analysis proposed in this PhD thesis attempts to touch upon other related disciplines and research areas to provide a more coherent and holistic picture of current scientific practices and scenarios of digital academic communication. Thus, aspects such as the role of the visual mode in the configuration of the digital practices under analysis and the relevance of contextual variables in understanding research group's intentions were taken care of by including methodological assets from frameworks such as CMC, Genre Studies, Corpus Linguistics, Discourse Analysis, Multimodality, and Ethnography. Figure 3.3 visually represents this interplay, placing the wider frameworks at the top, that is, CMC, Genre Studies and Corpus Linguistics, and the more specific discoursal and textual approaches at the bottom. The underlying idea is that pragmatics can (and should) be connected with all of them to accomplish an analysis that considers how (digital) discourse is holistically produced, under what circumstances and through which means.

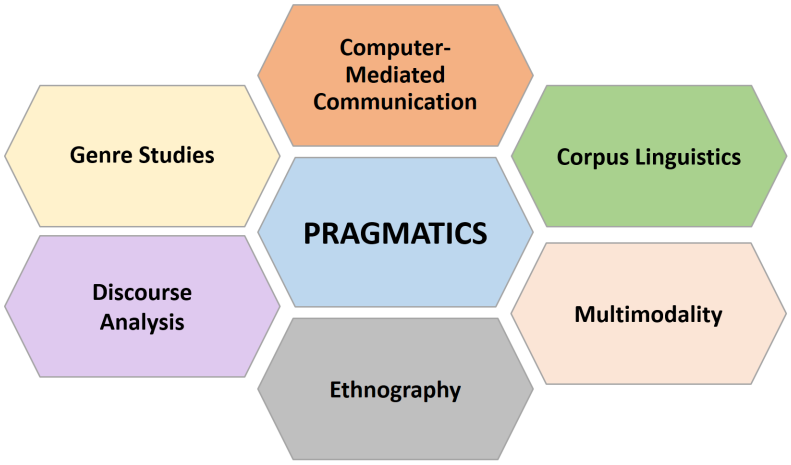


FIGURE 3.3. Theoretical and methodological perspectives for a holistic analysis of pragmatic strategies in the digital medium.

The analytical perspectives illustrated above have been conceptualised in Chapter 2, with the exception of Corpus Linguistics, which is discussed as follows, and Ethnography, which can be consulted later in Section 3.3. Corpus Linguistics (CL) is one of the prevailing research fields within Applied Linguistics whose purpose is to collect and study existing and authentic linguistic data representing the 'real world' (cf. Sinclair 1991; Biber, Conrad and Reppen 1998; McEnery and Wilson 2001; Tognini-Bonelli 2001; O'Keeffe and McCarthy 2010; McEnery and Hardie 2012; Fišer and Beißwenger 2017). A classical dichotomy in CL has been laid upon the perspective taken by researchers to look into the corpus data based on the work of Tognini-Bonelli (2011). Corpus-based approaches (CBA) and corpus-driven approaches (CDA) are regarded as

the ends of a string, since they provide opposite manners of managing data. While a CBA resorts to a corpus as an inventory of language evidence, from which the researcher extracts the appropriate content to support intuitive knowledge, test hypothesis and quantify linguistic data. Thus, it serves to quickly come up with representative examples of pre-set explanations and assumptions, so it is a great way to prove existing theories. On the contrary, a CDA utilises the corpus as the basis for empirical investigation with which to detect linguistic patterns and phenomena. Therefore, there are no previous expectations or assumptions that may guide the analysis. Yet, McEnery and Hardie's (2012) perspective is to reject the idea that a corpus is provided with a fixed theoretical status, neglecting the binary distinction between corpus-based *versus* corpus-driven linguistics and arguing that all corpus linguistics can be considered corpus-based. Table 3.9 digs into the opposing views entangled in both approaches to corpus analysis:

Corpus-based approach (CBA)	**Corpus-driven approach (CDA)**
"Corpus evidence is brought in as an extra bonus rather than as a determining factor with respect to the analysis, which is still carried out according to pre-existing categories; although it is used to refine such categories, it is never really in a position to challenge them as there is no claim made that they arise directly from the data." (Tognini-Bonelli 2001: 66)	"There might be a large number of potentially meaningful patterns that escape the attention of the traditional linguist; these will not be recorded in traditional reference works and may not even be recognised until they are forced upon the corpus analyst by the sheer visual presence of the emerging patterns." (Tognini-Bonelli 2001: 86)

TABLE 3.9. Differences between the corpus-based and the corpus-driven approaches.

At this stage, it should be remembered that a Corpus Pragmatics approach is gauged in this PhD thesis by founding the pragmatic analysis on a thoroughly compiled corpus of digital texts aimed at representing scientific academic communicative practices online (see Section 2.2 for a review on CP). However, CP is not fully endorsed in this PhD thesis, as it would imply to "typically adopt a quantitative perspective" (Jucker 2018b: 455) and the study presented here is primarily of a qualitative nature. As a principle shared with CL, language data in CP tends to be treated "in a bottom-up inductive manner, beginning with form rather than with function" (Clancy and O'Keeffe 2009: 47), in such a way that form frequency results are first obtained and then functions are mapped to these. As such, one central concern for CP currently is "to avoid assuming that form-to-function processes are the only option and to find ways of addressing the challenges to function-to-form approaches" (2009: 48). In the perspective taken in this PhD thesis, texts are analysed following a data-driven procedure by which emergent patterns arise and pre-existing categories are rejected. In all, the benefits of the intersection of both disciplines are multifarious for the present study in that a CP approach "integrates core methodologies of either discipline: the horizontal reading methodology typical of pragmatic analysis and the vertical reading methodology typical of corpus-linguistic analysis" (Rühlemann and Clancy 2018: 262).

Mixed-Method Research (MMR) has been long now supported for its suitability to do research on health and social sciences. Likewise, it has been highlighted as particularly helpful in fields like education and linguistics. A solid body of scholars have tackled the principles and

applications of this methodological approach (e.g. Creswell 2007, 2013; Dörnyei 2007; Johnson, Onwuegbuzie and Turner 2007; Given 2008; Teddlie and Tashakkori 2009; Domínguez and Hollstein 2014; Riazi 2017; Sloan and Quan-Haase 2017; Ivankova and Greer 2018, just to name a few). Furthermore, the application of mixed methods has been deemed important especially when looking into 'language uses' (cf. Barton and Lee 2013; Myers 2013). In this sense, the purpose of this PhD thesis is to analyse the language uses made by research groups in digital settings from a pragmatic angle, adding to the understanding of specialised discourse and academic communication. Creswell (2013) advocates for the usefulness and efficiency of MMR, the combination of quantitative and qualitative approaches, and leverages the strengths of employing both perspectives as a step forward in research methodology. It is argued that the complexity of the problems addressed by investigators at present makes the use of either quantitative or qualitative methodologies inadequate just by themselves. Insights from both approaches are therefore regarded as beneficial, which could not be accomplished by the insights provided by each methodology on its own.

Thus, both quantitative and qualitative approaches have been followed to tackle the analysis of pragmatic strategies in research project communication. A content analysis allowed for the initial identification of pragmatic intentions in the EUROPRO Digital Corpus, and salient patterns of strategies were identified by manually reading the texts. A great deal of research has focused on qualitative studies (e.g. Gibbs 2007; Saldaña 2009; Coffey 2013; Flick 2014) and these sources were employed to guide this part of the analysis. Moreover, frequency of use of the pragmatic strategies was calculated. This enabled me to see the diversification of pragmatic macrocategories and specific strategies in general numbers. The contrast between the use of the strategies across web sections and between the website and the Twitter environments was also helpful to fully comprehend how research groups discursively and pragmatically construct their intentions. Quantitative analyses have been long theorised as well, and I endorse the work of some scholars for these purposes in my study (e.g. Biber and Jones 2009; Adolphs and Lin 2013; Gries 2012; Collins 2019).

After introducing this overview of mixed-method approaches and underlining the theoretical and methodological underpinnings of my study, I delve into the data-driven taxonomy that is employed as the analytical tool to investigate the EUROPRO Digital Corpus.

3.2.1. Data-driven taxonomy of pragmatic strategies

The organisation of the pragmatic strategies that were found to be meaningful in the corpus has been tackled by generating a taxonomy. As argued above in this PhD thesis, the design of the taxonomy followed a data-driven process, in which the data informed the taxonomy as the corpus was scrutinised. It was my attempt to cater for the salient intentions used by international researchers in two digital practices and, in that sense, the taxonomy was crafted from the beginning to be equally applicable to both objects of study. Two more aspects were considered in

its design. 'Reproducibility' was regarded as very important, so other (external) researchers could use the taxonomy as an analytical tool for DDA and DMPA. That is why the labels of the strategies were carefully considered and simplified, so that the intention was crystal-clear to any researcher. 'Replicability' was also taken to be crucial, in that other digital genres and communicative events within the realm of specialised communication and scientific dissemination may be researched by applying the taxonomy. As my methodological approach is data-driven, this may bring along the slight modification of the strategies in accordance to the technical and communicative affordances of the new contexts observed, but the taxonomy can be replicable to find (dis)similarities in terms of researchers' intentions in other digital venues.

The data-driven taxonomy contains 27 pragmatic strategies that are gathered in three main macrocategories: informative, promotional and interactional. A full disclosure of the taxonomy will be offered in Section 5.1 below. A relative balance among the three scopes was pursued, although flexibility was prioritised in order not to invite for an overidentification of pragmatic intentions or a biased analysis. Naturally, the taxonomy may have left out some pragmatic strategies that, though perhaps not so representative, were also deployed at some points by researchers in the texts analysed (and in the remaining texts of the EUROPRO Digital Corpus that were overlooked). Raising awareness of this aspect, a category labelled 'Other' was included in the coding process to accommodate such cases and reviewed in the event that an alternative strategy to the ones identified was becoming more and more prominent.

Focusing on the macrocategories that are the backbone of the taxonomy, I offer some basic definitions at this stage to understand their pragmatic scopes. The **informative macrocategory (INF)** refers to the strategies researchers use when they emphasise their communicative intent and, therefore, make a special emphasis on the fact that they are giving details about something. The **promotional macrocategory (PRO)** encompasses strategies aimed at advertising, positively valuing and showing off the various components of the project. Advantages, benefits and impacts achieved during the research progress and by the researchers are pinpointed. The **interactional macrocategory (INT)** is intended to capture the strategies employed when targeting a heterogeneous audience, without necessarily communicating with them in a bidirectional way. Therefore, strategies for both communication and actual interaction are included, in an attempt to account for the purposeful ways in which researchers reach diversified users through discursive means and the exploitation of digital affordances.

The coding and analysis was manual in the first stages of the research in order to iteratively find out about the pragmatic strategies, retrieve illustrative examples and gradually refine the taxonomy informed by the corpus data. Pilot studies were conducted to point out representative examples of the strategies, which were discussed and problematised with my PhD supervisors. Such examples were used as a guideline to compare other examples and resolve cases of conflict. Once the categories –the pragmatic strategies– were thought to be representative and coherent with respect to their use and saliency in the EUROPRO Digital Corpus, I started their semi-automatic codification with the help of NVivo Pro software programme. It consists of a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) which is frequently employed for research adopting qualitative and MMR approaches. It is particularly fruitful for the analysis of unstructured data and complex textual practices that may include a multiplicity of

modes. By way of an example, Figure 3.4 represents an excerpt of the analysis enabled by NVivo, where the loaded text appears on the left side and the designed coding system is shown on the right one.

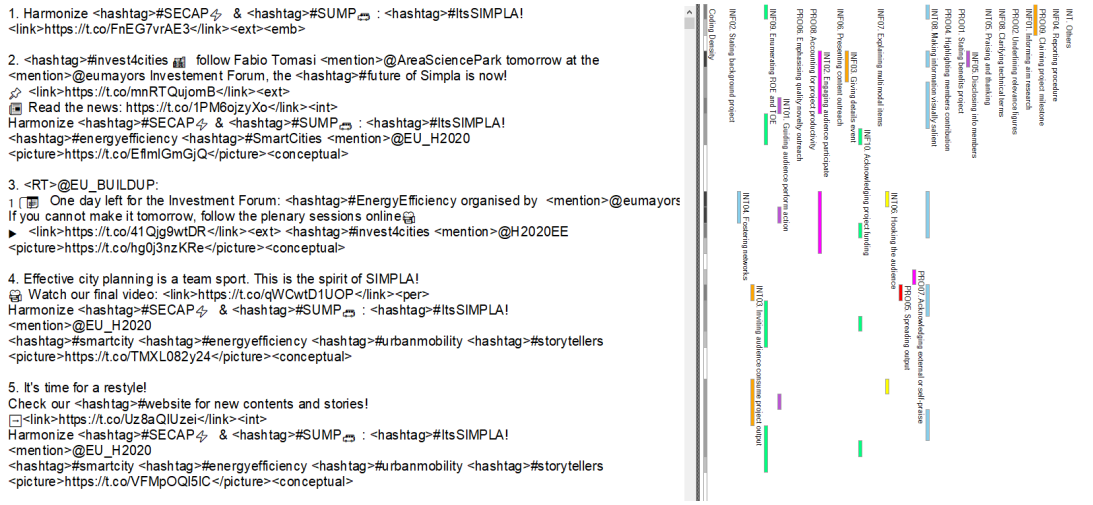


FIGURE 3.4. Screenshot of the data-driven analysis of pragmatic strategies using NVivo 12.

The upcoming subsection of the methodology deals with the careful tailoring of the taxonomy in the data-driven process. Decisions are highlighted to understand how the taxonomy went from initial drafts to completion and how validity of the procedure was handled to be ensured.

3.2.2. Revisitation of the taxonomy of pragmatic strategies

The final version of the data-driven taxonomy of pragmatic strategies resulting from the empirical evidence, the inductive approach, the spiral process and the ecological view (see Subsection 2.3.3) taken on the EUROPRO Digital Corpus is different in many ways from the initial drafts of this analytical framework. This is, then, the aftermath of a time-consuming, tough journey of reflection and revision to try to ensure enough research rigour. In this subsection of the methodology, the lens is placed upon the changes and decisions that I made for the refinement of the taxonomy of pragmatic strategies. These are driven by the corpus data and by the ongoing back-and-forth process between the data and the taxonomy under construction. Attention was paid to the limits of the macrocategories, which were proposed to comprise sets of pragmatic strategies under an overarching intention. The role of digital affordances was pondered as essential and is discussed for having misled the identification of pragmatic strategies at the beginning of the analysis. Reliability is also underlined as a key aspect to deal with in pragmatic analysis where subjectivity is sought to be averted for the sake of validity and reproducibility.

As mentioned above, the completion of the taxonomy of pragmatic strategies includes three macrocategories: informative, promotional and interactional. However, the initial versions of the taxonomy revolved around five scopes of pragmatic strategies, as can be seen in Figure 3.5 below. Two of such macrocategories, evaluative and outputting, were discarded, as they could

not be placed at the same level as the other and do not really capture the nature and force of the pragmatic strategies analysed.

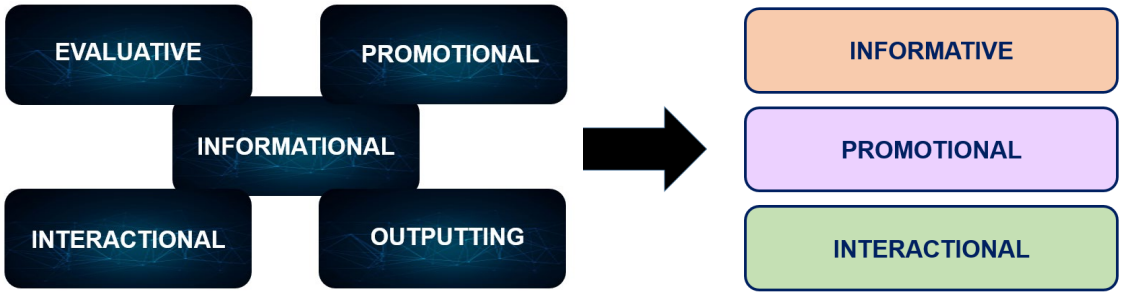


FIGURE 3.5. Initial and final proposals of macrocategories of data-driven pragmatic strategies.

Evaluative strategies were thought to explicitly shed positive or negative light onto the text in relation to the progress and the outcomes of the project and related matters. It was hypothesised that positive evaluation would be predominant in this regard, as the communication of research projects also pursues self-branding purposes, similar to the ones in processes of marketisation and corporate communication. The strategies included under this scope drew on prevailing frameworks employed in Applied Linguistics, specifically 'evaluation' (Hunston and Thompson 2000; Hunston 2010; Thompson and Alba-Juez 2014) and 'appraisal' (Martin 2000; Martin and White 2005). Nevertheless, evaluation cuts across the informative, promotional and interactional macrocategories –and by extension the pragmatic strategies included in each of them. In Thompson and Alba-Juez's (2014: 5) words, "the expression of values is an all-pervading feature of language" and, therefore, evaluation "permeates all the levels of linguistic description" (2014: 10). Despite the fact that it cannot be placed at the same level, evaluation and pragmatics are clearly interconnected, insofar as evaluation taps into interactional, interpersonal and rhetorical dimensions of communication, rejecting the idea that language is strictly fenced to the expression of propositions or ideas (Aijmer 2005).

In turn, **outputting strategies** were considered to strictly refer to research groups' intents as for the published products and outlets of the project. In that sense, there was an inclination in these strategies towards public engagement and democratisation of knowledge. Yet, it was soon observed that the focus was on the 'content' of research groups' discourse, not on the nature of the pragmatic strategies deployed. Thus, diverse strategies in the current version of the taxonomy touch upon the communication, promotion and circulation of output (e.g. [INF06] "Presenting the content of outreach"; [PRO05] "Spreading a piece of output"; [INT03] "Inviting the audience to consume research project output"), simultaneously conveying the specific pragmatic force in the intention –informative, promotional and interactional, respectively.

Changes in the enunciation and organisation of the strategies were also necessary as part of the data-driven process. On one side, the labels of some strategies were reformulated to better point at research group's intention in the communication of their projects. [INF02] was first labelled as "Opening with a general statement related to research" and was substituted for "Stating general background of the project". I realised that such general claims need not be placed at the beginning of the texts, but could be (and actually are) inserted elsewhere to back up the centrality

of the investigation and establish a basis for common knowledge with the audience. The term 'research' was also more exclusive than 'the project', when the statements could refer to the disciplinary field of the group, general facts of public interest and the latest news about their research.

[PRO05] was a similar case in which the original label "Announcing a publication" did not actually match other occurrences of the strategy in which the underlying intention of the research group was the same: "Spreading a piece of output". 'Output' is a much more ample term than 'publication' and better reflects the range of publication formats, materials and deliverables that funded international research groups produce for their projects. Likewise, it is obvious that they want to announce the release of a new output, but the ultimate intention is to circulate it and sharing it with others, hence 'spreading' seems a more accurate wording.

[PRO08] was initially enunciated as "Announcing participation at an external event" and this was taken to be only one instance of the research group's utmost intention when communicating such information, namely "Accounting for project productivity". As I explored the corpus data, I noticed that the emphasis was placed on the active role of the research group and on the prolific participation of the project at diverse fora and activities. External events, understood basically as conferences and meetings, represented solely conventional academic scenarios where this productivity was enhanced.

An interesting reformulation was related to [PRO06], which I coined as "Approaching research to society" in earlier stages of the taxonomy. Under this label, the research group's intention was not faithfully captured, and it was very complex to identify and measure when they were approaching societal agents through their discourse. What seemed more neutral and easier to analyse was whether they were positively evaluating the outreach they were offering to society in terms of its quality and novelty. In other words, the promotional strategy was redirected to the research group's view on the usefulness and impact of their production, instead of focusing on whether society was being approached by them. It was thus finally referred to as "Emphasising the quality and novelty of outreach".

By the same token, some strategies required a revision, and sometimes an extension, of their scopes and boundaries, in light of the affordances of digital genres and how they facilitated research groups to express their intentions. Three main phenomena were assessed with respect to these affordances, namely multimodality, hypertextuality and the affordances specific to Twitter. The strategy [INF07] was formulated as "Including multimodal elements for textual support" and later changed for "Explaining audiovisual elements". The previous label implied connotations that multimodality plays a secondary role in the digital discourse produced by research groups and is subsumed to the verbal mode (reducing 'textual' in the first option to 'verbal'). The data-driven exploration of the corpus let me realise that research groups seek to make it clear to users when audiovisual items help clarify or expand the meaning in the narration of their projects.

Concerning hypertextuality, two strategies were modified as they, in the end, indicated the navigation route that research groups were activating for users, and not their intentions in doing so. Hence, "Offering an external source for navigation" and "Offering links within the web" were squeezed out and two new formulations were proposed: [INT01] "Guiding the audience to perform an action", which refers to research groups' attempt to direct users' navigating mode,

and [INT03] "Inviting the audience to consume research project output", which in a way encompasses the typical use of hyperlinks to access such output, but transcends the mere insertion of these digital affordances. In both strategies, hypertextuality can occur both through links to external sources (for further information or where the output is hosted) or through the research project website (to sections where important information can be found or to webpages and documents where users can read the output).

Lastly, it was essential not to regard the affordances inherent to SNSs like Twitter as interactional pragmatic strategies *per se*. The drafts of the data-driven taxonomy comprised strategies like "Hashtagging and labelling" and "Backchannelling" –appropriated in such digital environment to encompass the option of 'retweeting'. These formulations were left behind, since they focused solely on maximising the interactive options provided by Twitter. In this case, no strategies replaced them, but their function was observed in the remaining set of interactional pragmatic strategies to sketch the use made by research groups.

Such a revision, boosted by the inductive approach and the spiral process adopted in the analysis, ensured that the data-driven taxonomy of pragmatic strategies reached a point of **'data saturation'**. This notion, frequently applied to the analysis of qualitative data through interviews, indicates that the ability to collect additional information has been accomplished, that enough information has been attained to replicate the study and that further coding is not feasible anymore (Guest et al. 2006; O'Reilly and Parker 2012; Fusch and Ness 2015). Therefore, saturation is achieved once researchers have exhaustively explored whatever phenomena they are investigating, and assessed such exploration in light of researcher triangulation, the diversity of the sample and repeated confirmation of the themes and categories coded during the analysis of the data (Faulkner and Trotter 2017). It is when no new interpretations or further explanations can be raised from the theoretical considerations that a point of saturation is reached. Saunders et al. (2018: 1896) claim that this process "is not necessarily perceived as forming part of the analysis itself [but] located principally at the level of data collection and is thereby separated from a fuller process of data analysis, and hence from theory". In brief, there is no agreement on a 'one-size-fits all' procedure for data saturation, in the belief that each study design is particular and not universal; however, data saturation is commonly accepted when the researchers 'take what they can get' out of the samples selected (Fusch and Ness 2015).

Furthermore, an essential part in the reflection and revision demanded by the data-driven analysis of the taxonomy of pragmatic strategies had to do with **reliability tests** conducted with samples of the EUROPRO Digital Corpus to cater for analytical rigour and avoid arbitrary decisions. Reliability needed to be guaranteed for the systematicity in the analysis and for the potential reproducibility of the taxonomy in other analogous, digital scenarios. Thus, the decision to perform these tests derives from the relatively large size and time-consuming exploration of the corpus, the complexity of the analytical tool (the designed taxonomy) and the manual or semi-automatic processes entailed for the analysis and the revision. As Krippendorff (2004) states, three aspects of coding are relevant in pursuing reliability: stability, accuracy and reproducibility, referring, respectively, to a persistent coder behaviour over time, to the extent to which coding responds to the agreed code and to whether various coders obtain the same results. Used in both quantitative and qualitative analyses, inter-coder (or inter-rater) and intra-coder (or intra-rater)

reliability tests were conducted, for both of which van den Hoonaard (2008: 445) offers a definition:

> Inter- and intracoder reliability refers to two processes related to the analysis of written materials. Intercoder reliability involves at least two researchers' independently coding the materials, whereas intracoder reliability refers to the consistent manner by which the researcher codes. Inter- and intracoder reliability is a major point of interest to researchers who believe that qualitative research lacks sufficient analytic rigor.

Against this backdrop, on the one hand, **an inter-coder reliability test** was undertaken with another researcher based on 10 Twitter accounts from the EUROPROtweets Corpus[16]. In agreement with Lombard et al.'s (2002) approach to content analysis, this was advantageous in that coding entails assessment of the 'surface' information, which is visibly manifest, but also usually of the 'under the surface' information, which involves latent content and, therefore, the coders' interpretation based on their mental schema. Pragmatic analyses are prone to such an interpretation, provided that there is a lack of regular one-to-one correspondence between the data and the analytical categories. This is why inter-coder reliability was beneficial for the triangulation of the codification of strategies using the taxonomy. Cases of disagreement were discussed face-to-face among coders, and generally involved the limits of the strategies over the coding chosen. As will be shown below, the process of taking such a test was fundamental for the revision of the taxonomy at initial stages, in that the codes concurred, as the coding process thickened, that some codes emerging from the data "should be abandoned, refined, combined, or merged with other codes […] if they refer to sporadic statements in the text or if they seem to fall outside the parameters of the study" (van den Hoonaard 2008: 445).

On the other hand, **an intra-coder reliability test** was taken in order to ensure that I was being consistent in using the taxonomy and in working with the software NVivo Pro. Ten research project websites were randomly selected from the EUROPROwebs Corpus as a sample for this test. Cases of conflict helped reconfigure the strategies within the taxonomy and determine more clearly their scopes. A minimum 3-month time span was kept for the revisitation of the analysis, in order to surpass the influence of both the 'learning effect', which deals with the progressive improvement in analytical accuracy with respect to the codebook (i.e. the taxonomy) and the data, and the 'fatigue effect', which concerns the worsening in decision-making as a consequence of an overexposure to the task performed (Roussen, Gasser and Seifert 2002).

After having modelled the two subcorpora of the EUROPRO Digital Corpus and unveiled the methodological conundrums and solutions that were faced during the analysis, the next subsection is devoted to introducing ethnography as a research discipline in general, and as a working toolkit for pragmatic analysis in particular. The semi-structured interviews conducted with Horizon2020 project members from the Universidad de Zaragoza are also reported.

[16] The researcher that assisted me in testing the taxonomy and refining the pragmatic strategies was Dr Pilar Mur Dueñas, one of my PhD supervisors, to whom I am very grateful for such an effort.

3.3. Ethnography as a methodological tool

The field of ethnography is put forward as another salient methodological tool in the pragmatic analysis of research groups' strategies when disseminating information about the projects (as was illustrated in Figure 3.3). The fruitful combination of multiple methods, among which ethnography is included, is beneficial for research, as it permits not only the triangulation of the data and the corresponding findings, which helps ensure trustworthiness of the investigation, but also the promotion of its ecological validity, which might eventually lead to make sound generalisations out of the research and the results obtained (Starfield 2011).

Subsequently, an ethnographic approach to the study of discursive practices and pragmatic intentions is helpful to inform the background of communicative events and understand participants' characteristics and goals, and thus to provide a grounding for context-sensitive analyses and comprehend more effectively the encoding and instantiation of such discourse. In particular, pragmatic and discursive research endeavours can benefit from ethnographic studies in that "language and the social world are mutually shaping, and that close analysis of situated language use can provide both fundamental and distinctive insights into the mechanisms and dynamics of social and cultural production in everyday activity" (Rampton et al. 2004: 2).

Multiple conceptions of ethnography have been suggested through time and highly contested depending on the discipline. Nevertheless, some definitional work is called for to understand the scope and impact of ethnography, both in general as a field of research and in particular for the study in this PhD thesis. One recurrently cited conceptualisation is proposed by Hammersley and Atkinson (1995: 1), who argue that ethnography refers

> primarily to a particular method or sets of methods. In its most characteristic form it involves the ethnographer participating, overtly or covertly, in people's lives for an extended period of time, watching what happens, listening to what is said, asking questions—in fact, collecting whatever data are available to throw light on the issues that are the focus of the research.

Such definition may be understood as a rather one-fit-all box that requires narrowing down the theory and practice of ethnographic methods. Conversely, Johnson (2000: 111) provides a more restricted view of ethnography as "a descriptive account of social life and culture in a particular social system based on detailed observations of what people actually do". This definition includes a purpose (to describe), a means (observation of behaviour), and a target (people in a social system).

A first initial distinction lies in the divide between macro- and micro-ethnography, based on the respectively broadly- defined or narrowly-defined angles taken to the study of cultural groupings. The case in point in this PhD thesis follows, then, a micro-ethnographic approach, as it tries to depict the trends and practices unique to international research groups and related to the communication of their research projects. Furthermore, ethnographic studies may consider two angles to look at a particular phenomenon; the emic perspective is that of the insider who is very much directly involved in or connected with the object under study, whereas the etic perspective is that of the outsider who is approaching that object without being necessarily related to it (cf. Murchison 2010; Schensul and LeCompte 2013). While emic ethnography tackles the way members of a culture interpret their world from the perspective of the subject, etic ethnography

focuses on how participants outside a given culture perceive its phenomena and behaviours from the perspective of the observer.

Additionally, Lillis (2008: 355) proposes a pertinent classification of the ways ethnography can be conducted, out of the diverse techniques and approaches that can be employed and the multifold goals it may serve. Ethnography as method "usefully directs the researcher's attention beyond the written text towards a consideration of some elements of writers' perspectives about texts". Ethnography as methodology concerns "multiple data sources and sustained involvement in contexts of production" to "explore and track the dynamic and complex situated meanings and practices that are constituted in and by academic writing". Finally, ethnography as 'deep theorizing' problematises "the ways in which text and context in writing research are often conceptualised as separate phenomena and signals the need to develop analytic tools that narrow the gap between them". Thus, I believe it is more sensitive to contend that ethnography is approached 'as method' (Lillis 2008) or, else, in Swales' (2019) words, that I endorse an 'ethnographically tinged research'.

3.3.1. Ethnographically-informed data about a digital, scientific context

Taking an ethnographically informed approach to the study of pragmatics in digital discourse seems helpful to contextualise participants' intents, motives and overall practices. Much as opposed to the spoken mode, observing textual evidence mostly encapsulated in the written mode may harden the task of comprehending the individual characteristics and general background of the senders of a message. Yet, it keeps being fundamental to regard text-external factors as central to pragmatic analyses, in that they can surely provide the rationale and the process the writer wanted to accomplish and actually follow, respectively, when producing any digital text. As Widdowson (2004) contends, texts solely constitute in the end traces of discourse and, accordingly, do not normally carry information about their production and reception. This entails that discoursal variables cannot be elicited in a straightforward way from the textual evidence, pushing the researcher to relate to the external conditions of texts to be informed about their creation and distribution. The juncture of ethnography with the (sub)disciplines of Applied Linguistics have proved to be fruitful to accomplish more holistic analyses. Hyland (2009: 36) offers one more definition of ethnography as imbued in the analysis of academic discourse:

> Ethnography is an interpretive and qualitative approach to research based on the study of behaviour in naturally occurring settings. […] While acknowledging that language is always an important part of such settings, ethnographic studies take a wider view to consider the physical and experiential contexts in which language is used.

Actually, a research area about 'linguistic ethnography' has bloomed in recent years as a very insightful research avenue (e.g. Maybin and Tusting 2011; Copland and Creese 2015; Tusting 2020). One of the main concerns for linguistic ethnography has probably been academic writing –particularly in offline genres. Interest has been raised about complex issues such as writers' identity construction, writing processes as related to particular genres, the influence of authors' sociocultural background, and the learning and teaching of academic writing (e.g.

Flowerdew 2002; Lillis and Curry 2010; Paltridge, Starfield and Tardy 2016; Guillén-Galve and Bocanegra-Valle 2021). The text histories of disciplinary communities have also been an object of inquiry in relation to conventional, offline discursive practices (e.g. Mur-Dueñas 2012; Shaw 2016).

The discipline of Ethnography seemed an advantageous asset as part of the procedure of this PhD thesis. Information was received directly from participants involved in the scholarly and professional scenario under analysis, as a fundamental, complementary procedure of knowledge construction into researchers' intentions and goals when disseminating and making their large-scale projects visible. Therefore, it helped me discover aspects of the discourse community and culture of international research groups, which may be at first sight overlooked. Thanks to taking this approach, I could, at least partially, zoom in onto the implicit structures and dynamics of such community. Two main aspects make the use of ethnography tremendously beneficial for the present study: 1) it is exclusively centred on the digital medium, and 2) pragmatics is the main analytical lens.

I also investigate current academic practices, like the ones mentioned just above, but the fact that these are developed online entails a huge difference. The pertinence of charting users' practices as embedded in their contexts and uses of the digital medium is highlighted by Miller and Slater (2000: 14), who claim that the Internet should be disaggregated and not taken as "a monolithic medium", but as "a range of practices and modes of representation and interaction". In pairing up the mutual benefits between sociolinguistics and CMC, Androutsopolous (2006: 424) also highlights that "an ethnographic approach is consonant with the shift of perspective from the medium to its users […], because it emphasizes the local and situated character of Internet practices". In the end, the ethnographer would not be analysing people's general use of the Internet, but how users assemble technical and communicative affordances to foster a particular use of the Internet, *their* use. Yus (2018, 2021) also emphasises the ethnographic approach as key in the gathering of social information, but acknowledges that when applied to online settings it requires a revision of its goals and methods and becomes somewhat difficult to follow. "One problem is that the analyst cannot *live* among the users to conclude what social aspects are assumed and reinforced through online interactions; instead, partial logging onto the social sites is expected" (Xie and Yus 2021: 458).

On the other hand, at the juncture of ethnography and pragmatics, one finds that **context** is a quintessential element for both disciplines. For one thing, it is determinant in the identification and interpretation of textual evidence in pragmatic analyses; for another, it is accessible from the insights and findings obtained from informants in ethnographic research. About this point, Blommaert and Jie (2010: 4) contend a reflection about how ethnography is entrenched in linguistic studies:

> In the field of language, ethnography is popularly perceived as a technique and a series of propositions by means of which something can be said about 'context'. Talk can thus be separated from its context, and whereas the study of talk is a matter for linguistics, conversation analysis or discourse analysis, the study of context is a matter for ethnography.

In the pragmatic analysis of digital practices, the context is obviously framed by the role of the digital medium, and how users employ affordances and discursive choices in their practices. As such, 'digital ethnography' may be adopted to deepen the understanding of context-sensitive digital practices. Varis (2016: 56) advocates for the usefulness of ethnographic work in this endeavour:

> Using the Internet, and drawing on language and other semiotic means in doing so, are locally situated experiences and entail locally specific practices, platforms, and semiotizations. Ethnography has precisely the tools for capturing this aspect of situatedness, offering a means for understanding informants' life-worlds and their situated practices and lived local realities.

It would not be accurate to claim that ethnography is conducted in the purest form in this piece of research, as it is not about undertaking longitudinal field research or reaching a massive amount of informants. It is rather perceived as an instrumental, analytical tool that turns out as really effective and helpful to gain access not only to the figure of the researcher and their joint projects, but also to the objects of study, that is, research project websites and social media for research dissemination purposes.

The ethnographic tool selected for this part of the study was **the semi-structured interview**. "Interviewing, so the logic goes, offers a means to obtain information unavailable to direct observation and to understand individuals in their own words. The interviewer's function, therefore, is to *elicit* and *report* these uncovered facts and first-person perspectives" (Prior 2018: 225). The fact that they are semi-structured interviews provides a middle point between the two extremes of completely structured and totally open (Dörnyei 2007). Concerning the perspective taken to the study, it is primarily an etic perspective, because I am the scholar researching the phenomena –thus, an outsider–, but also to a certain extent an emic perspective, insofar as I belong to a national research group in which we develop research projects. This implies knowledge of the genres and texts that researchers are expected to produce, publish and circulate, and of the discursive academic practices that research endeavours have traditionally entailed and are entailing nowadays.

In short, I have tried to highlight in this subsection how the discipline of ethnographic studies is advantageous –in many different ways– from a pragmatic and linguistic perspective. A high degree of contextualisation facilitates the understanding of the dynamics of communicative situations and the behaviours of their interactants. By using ethnography 'as a method', it was my intention to accomplish a thick and rich description of a relatively particular scenario, which involves international research funded projects. In the upcoming subsection, I come to spell out how, by interviewing informants in real-life environments, it was possible to retrieve contextual and substantial data about research groups' perceptions on their digital practices and literacies, and how they put them in practice for the communication of their research projects.

3.3.2. Semi-structured interviews with UZ researchers

An ethnographic approach was decided to be beneficial as a complement to the pragmatic study of scholarly and scientific digital communication, focused on the strategies employed in research project websites and Twitter accounts. The way to proceed with such an ethnographic analysis involved conducting semi-structured interviews with researchers participating in H2020 research projects which had been selected for our EUROPRO Digital Database. These interviews were expected to contextualise and support the textually-retrieved data, and cast light both on researchers' perceptions and attitudes towards the digital communication of their projects and their role in it, and the reasons for and implications of the use and frequency of the pragmatic strategies employed by these researchers. In order to incorporate ethnographic data to fulfil these aims, the notion of ethnography as a method (Lillis 2008) was adopted, as stated earlier in this chapter. The 'talk around text' in the form of a protocol of semi-structured interviews was aimed to reach a scope of analysis which is based on empirical evidence, which therefore moves beyond the sole texts, and which foregrounds strong interest in the contextual elements surrounding those texts as determinant to fully understand the research questions posed.

The feasibility to carry out semi-structured interviews was ensured thanks to one of the criteria for the corpus compilation presented above: the participation of the University of Zaragoza or any other research institution based on this city as a partner belonging to and participating in the consortium of each H2020 project selected for the corpus. Such research centres and institutes included:

- Universidad de Zaragoza (UNIZAR)
- Fundación CIRCE (Centro de Investigación de Recursos y Consumos Energéticos)
- ITANNOVA (Instituto Tecnológico de Aragón)
- INA (Instituto Universitario de Investigación en Nanociencia de Aragón)
- I3A (Instituto Universitario de Investigación de Ingeniería en Aragón)

Consequently, researchers involved in the research projects under study and, accordingly, in the research project websites and Twitter accounts, were physically close enough to reach as available informants for a FtF interview. The complex structure of the research projects and the diverse interests of the partners making up each consortium were unveiled in the various roles that the Zaragoza-based partner played in the projects. This amalgam of roles revealed in the interviews raised my awareness of the functioning, distribution and cooperation of the H2020 research projects selected in the corpus, which can most likely be replicable for any project of the sort. Hence, the lack of homogeneity in the positions and tasks of the Zaragoza-based research members within their corresponding projects emphasised diverse scenarios that were leveraged to explore many more perspectives and attitudes researchers could hold as regards the creation, maintenance and exploitation of digital texts and media. The fact that researchers worked in different packages and stages in their respective projects was beneficial for the study and

contributed to obtaining a holistic picture of researchers' intents and strategies for the dissemination of their research projects.

The nature of the interviews conducted was semi-structured based on a purposefully designed protocol of themes and questions (see Appendix V). A fixed set of questions first served to establish a line of thought during the interviews and underline the main points of information I regarded meaningful for the study. Additionally, this structured part of the protocol gave the interview coherence, allowing to move from rather general information to concrete details. Moreover, it aided to ease the researchers' comprehension of the goal of the interview and to make them at ease when actually dealing with the questions. Yet, the interviews were also conversational and dynamic; there was room for discussion any time researchers wanted to extend their explanations, and further questions were raised based on their own claims. Therefore, each of the interviews comprised additional information from a number of follow-up questions based on the protocol and from the discussion with researchers, mostly about the precise tasks of the institution they were working for as a partner in a H2020 project and the relationships with other project partners.

The first step to undertake the ethnographic study and access the informants belonging to the Zaragoza-based institutions and participating as project partners consisted of looking up their public contact details in the research project websites. This information, which was published by the projects in their websites to be publicly viewed, mostly within the *Partners* or *Contact* sections, was the only source of information to reach interviewees. An exceptional scenario involved researchers redirecting me to other researchers in their institutions who could better suit the purposes of the interview, as the latter either were directly involved in the dissemination of the project rationale and results or had more expertise with the communication strategies concurred by the research project. In all, up to 27 potential informants were contacted via e-mail and 14 of them agreed to make an appointment to do the interview. Since two of the interviews counted with the simultaneous participation of two researchers belonging to the same project, 10 research projects from the corpus compiled were represented in total. That means that 33% of the research projects were voiced and represented in the ethnographic study.

To have a more complete overview of this part of the research, Table 3.10 below presents the research projects involved in the interviews, the local institution based in Zaragoza that played the role of partner, the date the interview took place and its length. Interviews were carried out face-to-face on the spot, except for one of them, which took place via phone call, in the time span of January and February 2020. I attended researchers' offices and workplaces at their institutions and we counted on a computer during the interview, in order to make reference to, when deemed necessary by the interviewees, the research project website and the social networks of the project (with a clear emphasis on Twitter). Each informant was administered a consent form prior to the interview, for them to permit the recording of the interview to be conducted, so that I could afterwards listen to the interviews again, transcribe them, analyse them and extract meaningful data more accurately.

	H2020 research project involved	Date of interview	Zaragoza-based partner	Interview length
Informant 1	IRP17	22/01/2020	UNIZAR	17:10
Informant 2	IRP20	24/01/2020	UNIZAR	24:17
Informant 3	IRP21	24/01/2020	UNIZAR	23:37
Informant 4	IRP23	03/02/2020	UNIZAR	17:19
Informant 5	IRP03	05/02/2020	CIRCE	35:58
Informant 6	IRP16	06/02/2020	CIRCE	30:37
Informant 7	IRP04	07/02/2020	UNIZAR	35:51
Informant 8	IRP10	12/02/2020	CIRCE	29:04
Informant 9	IRP23	14/02/2020	UNIZAR	33:02
Informant 10	IRP11	25/02/2020	CIRCE	31:29

TABLE 3.10. Description of the interviews administered to informants of the EUROPRO Digital Corpus.

Moving back to the protocol, more exhaustive information about the questions shaping the backbone of the interview may help gain insights into the type of information that was sought from informants. Overall, questions dealt with researchers' habits, attitudes, perceptions and purposes when employing digital communication as well as with their duties and responsibilities within their H2020 project to this respect. The protocol, containing 17 questions (see Appendix V), was divided into four main sections around particular concerns. In what follows, the sections are detailed by emphasising the rationale of the group of questions included. A translation of the questions into English is proposed for the sake of comprehension.

A) **Processes of creating and writing in digital media.** The first set of questions proposed revolves around the processes of crafting, updating, revising and publishing web-generated texts housed in the digital media researchers have decided to use. Following Richards' (2009) guide, I placed two clearly open questions at the beginning of the semi-structured interview, with the aim of impeding a pattern of short, quick responses by the interviewees. It was my intention to deepen into the decision-making process that led researchers to conceive and configure their research project websites and Twitter accounts. Hence, there were questions about the inception of the digital media specifically focusing on who was responsible for maintaining them, at which stage of the project they were generated, what particular design choices were agreed on by the consortium and, finally, how often design settings and published texts were modified and updated.

As regards the texts, informants were also asked about the authorship of the different texts allocated in the research project website, as well as the management of the tweets. Further contextual details of the aspects above were also thought to be revealing, for instance, referring to whether texts in English were revised by a native speaker and whether they were actually shared and jointly revised among the members of the research project before going online. To close the section, questions about each of the objects of study were posed: regarding websites, I wanted to find out researchers' opinion about the most dynamic and changing sections and the reasons behind their choices. For Twitter, the focus was on the use of one of the technical affordances, specifically, retweeting, to discover to what purpose it was exploited and what sort of content was retweeted. Thus, the first set of questions, which have been here translated and can be checked in Appendix V, comprise:

1. What do you like about the website of your research project? What would you value as positive about it?

2. How did the project website originally arise? And the Twitter account of the project?

3. How was the website designed? Which decisions did you make to do so?

4. Who is in charge of drafting the texts for the project website? Are these revised by a native speaker of English? Are the texts circulated among the project members before publishing them online?

5. When is the content of the website updated? Which sections undergo changes more often?

6. Who is responsible for managing the project Twitter account? Are there several research members that can write tweets?

7. How is the affordance of retweeting employed? What sort of content is normally retweeted?

B) **Functions, structure and audience.** The next cornerstone in the interview lied in the rationale of both digital media (website and social networks) and the requisites for their effectiveness, as contextualised in a research environment and emphasised for collaborative purposes. Thereby, the overarching functions of the research project websites and the Twitter accounts were identified and led way to a discussion about their internal skeleton, mainly in the case of the website and the different sections that each research project team had decided to house within them. The last key notion in this section was that of audience with two purposes: firstly, to identify researchers' imagined, perceived and ideal audiences that consult the digital media of their project; then, to raise awareness of their potential participation as readers of similar digital media aimed at the dissemination of IRPs, in particular, and international scientific communication, in general. The projects' inner communication and the possibility of the website to be a shared place that allows researchers and project participants to keep up with the research progress and output as readers were also considered. This group of questions included:

8. What is the main function of the website and the social networks of the research project to which you contribute?

9. Which sections in your project website are the most relevant? Why so?

10. What makes a research project website of an international research group effective? And a Twitter account?

11. Who do you think that looks up the project website? And the Twitter account? Are you and the members of your research group also users who consult other websites from international research projects?

12. To what extent does the website play the role of platform, so that members of the research group catch up with the activities taking place and the productivity in the project?

C) **Discoursal and pragmatics issues.** Academic discourse and language use in these texts was the main concern in this part of the interview, with an inherent emphasis on pragmatic strategies and intents. Interviewees were asked to reflect on the pragmatic and linguistic mechanisms and resources they (un)consciously employ in the texts hosted in the website and the tweets they publish. Tackling these matters entailed a high degree of difficulty and required adapting the technical terminology (e.g. pragmatics, multimodality, dissemination) in the phrasing of the questions, bearing in mind that they were directed to a non-specialised audience. The aim was for researchers to explain the particular ways the complex lexis and concepts were disseminated and popularised to wide audiences in light of the high-demanding scientific and technical nature of their H2020 projects. Lastly, the role of hypermedial elements and the combination of multiple modes (which is pragmatically analysed later in Subsection 5.2.4) was brought to the fore by requesting informants to identify which audiovisual materials were preferred, in which ways they were taken to be necessary and helpful for the communication of research project, and where specifically they were thought to be most suitable and effective inside the web. The three questions posed in this part were:

12. Which strategies would you say that you deploy in the texts that you publish?

13. Do you try to communicate the specialised or technical information related to your research? In what ways is this accomplished?

14. What is the purpose of including images and videos sometimes? In what website sections do you think they are most suitable?

D) **Views of the researcher.** To close the interview up, researchers' individual perceptions were retrieved. Informants were first expected to highlight positive aspects of their research project website. Then, they were asked to rank their answers in two qualitative ordinal questions posed to measure interviewees' involvement and participation in the tasks contributing to the digital communication of the research project. The first one concerned their viewpoints about a short list of three major goals the research project website and the Twitter account could help to accomplish. These goals matched the three main scopes of pragmatic strategies –communicative, promotional and interactional– that are explored in Section 4.1 below. The second question addressed their degree of personal investment of time and effort put into the dynamics of online communication related to the project, as well as the perceived payoff that this work generates for the project:

15. What do you like about the website of your research project? What would you value as positive about it?

16. From 1 (Not at all) to 7 (Absolutely), do you reckon, on the one hand, your project website and, on the other, your Twitter account, to be beneficial in order to…

- provide information about your research?
- promote the project you participate in?
- bring the project closer to the audience and interact with users?

17. Please, mark from 1 (Very little) to 5 (Very much), first, the time you invest in the digital communication of your project and, then, the reward this investment triggers for your research project.

As stated earlier in this section, interviews were conducted in Spanish for the sake of the understanding of the questions and exploitation of further discussion. All informants hold a relationship towards English as their L2 or L3, but they might have presented very dissimilar levels of linguistic proficiency, and this may have affected the quality and quantity of their contributions. After full transcription of the texts in Spanish, the next step was the selection of the fragments, and then, once selected, their translation into English. Traces of spoken discourse were removed when redundant or confusing so as to enhance clarity of interviewees' information, especially regarding repeated oral discourse markers (e.g. *okay, then, well*), together with long hesitations, false starts and self-paraphrasing before beginning their speech. The criteria for selecting the fragments lied in the further light they could cast onto the findings obtained through the pragmatic analysis of the corpus. Hence, fragments were selected when they unravelled insights and ideas which might have been overlooked otherwise and which are meaningful to my arguments about the objects of study and the study of pragmatic strategies.

The ethnographically-informed evidence of researchers' pragmatic and discursive practices in the digital communication of their research projects was then leveraged in this PhD thesis for two different, yet complementary, purposes. Firstly, informants' attitudes and perspectives were interesting and necessary to situate the topic and analysis of this PhD thesis and to inform the niche that it tries to address and fulfil. This was possible by collecting from first-hand sources updated statements and reflections on the structure of research groups, the relationship with funding institutions, the division of work, the planning of communication actions, etc. Additionally, researchers provided rich input that helped to further conceptualise the two instances of research digital practices that are the focus of the present study: RPWs and TRDP. Asides and explanations that informants elaborated on during the interviews were particularly interesting and illustrative in underpinning a more careful identification of the notions and uses of the research project website and the Twitter account in this scholarly and scientific context. As a result, the existing literature and the studies on websites and social media, which, to my knowledge, have to a very little extent tackled the digital practices exploited for the communication of IRPs, could be complemented and extended with participants' views.

Secondly, data from the semi-structured interviews were regarded as beneficial and supportive in the framing of results and findings about the frequency and distribution of the pragmatic strategies identified in the taxonomy. Connections between the textual data and the contextual evidence were established, and implications from these connections drawn,

contributing in this way to the understanding of the purposeful use of pragmatic strategies and, by extension, of research groups' motives and practices. For this second use of ethnographic information in the PhD thesis, the last two questions of the interview (see questions 16 and 17 above) were notably relevant to provide average numeric values. Thus, results from the textual, pragmatic and multimodal analysis could be contrasted at first glance with informants' individual assessment.

This chapter has cast light onto the methodological criteria and decisions taken for the study of pragmatic strategies in research project communication. The procedure to compile EUROPRO Digital Corpus has been explained and the corpus described. Moreover, ways to achieve systematicity and consistency have been charted. A mixed-method approach has been justified as the most suitable way of undertaking the analysis. Ethnography as one more tool of the box has also been underlined, and the protocol for interviewing informants described.

The next chapter focuses on the conceptualisation of the objects of study of this PhD thesis –RPWs and TRDP– represented in the EUROPROwebs and EUROPROtweets Corpora, describing their features, affordances and constraints. They are discussed both in general terms, in order to understand user- and medium-dependent features, and in the particular context of scholarly and scientific communication, in order to situate the analysis of how researchers exploit digital practices for their scholarly goals.

Chapter 4

Objects of study

In order to analyse the digital academic practices of international research groups when communicating advancements and findings of their projects, two objects of study have been chosen for their representativeness and their saliency, namely the RPWs and TRDP. In Section 4.1, the research project website is conceived of as the window to present the project and store the information and progress about it. Subsections are allocated to untangle the characteristics of prominent sections in RPWs, primarily the *Homepage*, the *About* section, the *Partners* sections and the *News & Events* section, and, more optionally, others (e.g. the *Work Packages* section, the *Output* section, the *Contact* section). In turn, Section 4.2 revolves around the use of social media in scientific communication. General features and specificities of Twitter as a social medium platform are first disclosed to understand how communication unfolds in this digital setting. Then, as a representative of the preferred social networks of research groups, Twitter is reckoned to pivot around the RPW and offer dynamic, appealing content related to the project investigation but not necessarily limited to it. This leads to coin the usage of Twitter for Research Dissemination Purposes (TRDP). On the whole, the combination of both objects for the analysis of the pragmatic strategies deployed by international research groups will provide a more holistic picture of their digital communicative practices, as the purposes, audiences and discursive choices found in project websites and Twitter accounts are dissimilar, yet they work complementarily in the dissemination and promotion of the research project. A careful review of previous studies on both websites and Twitter is undertaken to comprehend the rationale, the affordances and the usage of such digital media. Ethnographically-informed data from actual researchers participating in international projects are interspersed to support the theoretical tenets contended.

4.1. Research project websites: A generic instantiation of the website

It seems logical to refer to the general (and problematic) definition of 'website' as a previous step from which to discuss the particular case of research project websites. **Websites** can be regarded as the most basic unit to navigate through the Internet and as the technological recipient where users land and through which they can navigate. As Djonov (2007: 145) claims from a technical perspective, "being a hypermedia text, a website consists of webpages, that is nodes that incorporate visual, verbal and increasingly also audio and kinetic elements, and hyperlinks". Yet, we can take a broader lens and try to see where websites are located within the Internet infrastructure. As illustrated in Figure 4.1, Brügger (2009) proposes a scale of different levels to understand 'web material' in which each stratum is necessarily influential in the context of the others. Websites are placed right at the middle of the scale:

Web as a whole	All the material present in the Internet
Web sphere	Digital resources spanning various websites on a theme
Website	*A coherent unit of webpages*
Webpage	A single unit that is hosted within a website
Individual web element	Items housed on a webpage, e.g. an image

FIGURE 4.1. Brügger's (2009) five-level stratification of web material.

As for their design, websites are created and updated in a blend stemming from structural predictability and content variability (Catenaccio 2012). These two axes are impregnated, though, with high degrees of fluidity, flexibility and dynamicity that further complicate the definition of 'website'. Generally, the ultimate pursuit in the design of a website may lie in that they "need to achieve coherence while making immediate impact; they need structure as well as detail; interactive areas need to be clear and practicable; words, pictures, and icons need to be harmonized" (Crystal 2006: 209). In seeking to understand their rationale and multiple functions, Tenca (2018: 89) affirms in her analysis of corporate websites that the "website has a unifying function, since it gathers all the information related to [an entity] in one online *locus*". More specifically, Stein (2006: n.p.) claims that "the function of the website sits uneasily somewhere between a commercial, technical description of the product and a more formal report on facts".

Their everyday use in all spheres of life has sparked scholarly attention from a great deal of linguistic and discursive approaches. From a perspective closer to genre analysis, Catenaccio (2012: 40-41) offers a concise definition of the website "as a hypertextually organised rhetorical interface providing structured access to a network of genres which […] enable the creation of user-generated traversals that are nonetheless at least partially institutionally constrained". Yet, there is common agreement on the complexities in identifying and delimiting such network of genres. On this note, Caiazzo (2014: 307) argues that "web genres are rather difficult to capture and to describe in their entirety because, as a new kind of document, they are much more unpredictable and individualized than paper documents".

When creating or consuming websites, users have at their disposal **a plethora of affordances** enabled by the Internet structure which influence and are influenced by their own choices. Nevertheless, there are also difficulties in the identification of the integral characteristics, affordances and uses of websites brought about by their composite, multi-layered organisation and construction. Websites are typically "polymorphic (i.e. they come in many shapes and forms, even when sharing essentially similar communicative purposes […]), and by definition comprise more than one type of text, each of them potentially belonging to a different genre" (Catenaccio 2012: 33).

In trying to come up with an overview of the affordances pertaining to the website as an encompassing notion, Figure 4.2 displays an attempt to pin down affordances ranging from technical to communicative ones (as the two ends of a continuum that allows us to place digital affordances along it, and avoid establishing their fuzzy boundaries). Affordances to the technical end are not regarded as triggered by individuals, but as encompassing a range of features and possibilities that the online medium and specific digital spaces open up for users. To the communicative end, affordances are comprised which can be fostered and maximised at varying degrees depending on users' individual choices to ensure effective and successful communication. Additionally, the affordances can be associated with four different variables, understood as different components that exert an influence on the activation and exploitation of the affordances (e.g. the medium, the website, the practice and the user). Yet, this does not imply that their functionality is strictly restricted to the variable to which they are suited. Such variables include, at the upper level, 1) the (digital) medium in which affordances are enabled and 2) the practices established in that medium, and, respectively subsumed to the previous ones, 3) the website in which affordances are exploited, and 4) users' individual choices.

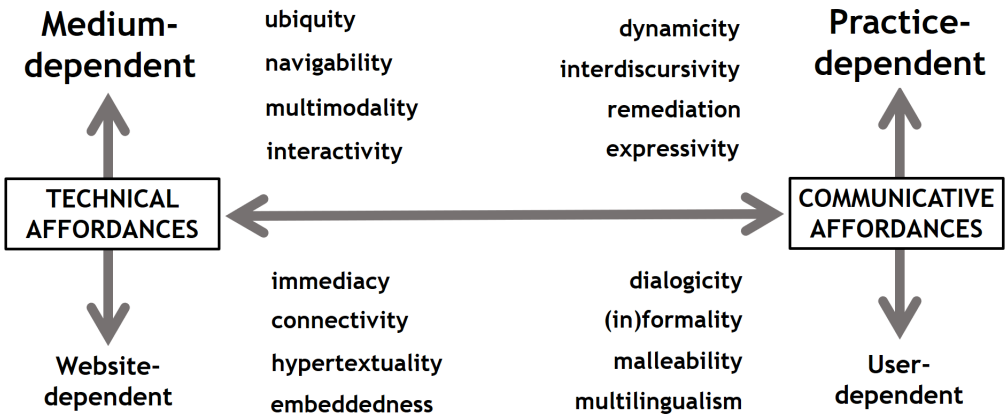


FIGURE 4.2. Affordances of websites framing digital communication.

The broad range of affordances[17] presented should be understood as features common to most digital texts, but will be here discussed in connection with research project websites to comprehend how they activate opportunities for communication within the context of scholarly and scientific communication. One end of the continuum –the technical set of affordances–

[17] The placement of the affordances as closer to or further from the variables of the continuum follows no significant order.

includes some related to the digital medium as the environment where online communication unfolds and others rather belong to the website as the physical recipient where such communication takes form and is effected.

Concerning medium-dependent affordances, **ubiquity** stands out as the possibility of using the Internet infrastructure from any physical location through any existent electronic device at any desired time. As Lomborg and Bechmann (2015: 2) claim, "the ubiquity of the internet encompasses not only technological platforms, but also the networked communications these platforms facilitate with services (i.e., apps, websites, etc.) and with people, including the massive data trails that are generated by these communications". In addition, users have at their disposal infinite ways of moving throughout the Internet, by typing and searching for desired information, by clicking back and forth on the content they want to access, by downloading data they need to store or by sharing all of this with other users. That is, the **navigability** affordance allows users to access and consume information in a non-linear sequence according to their interests, needs and goals. Such navigability is emphasised by the dichotomy proposed by Askehave and Nielsen (2005) between 'reading mode' and 'navigating mode', as discussed in Subsection 2.1.1.

Subsequently, **multimodality** is exploited in digital texts to unprecedented levels, based on Kress and van Leeuwen's (2001) premise that all texts are multimodal and always entail the integration of several semiotic resources. As explored in Section 2.4, in (research project) websites, the combination of modes is eased by the possibilities the Internet infrastructure gives to users. As digital texts, authors and designers can exploit the visual and auditory modes by uploading images (still, moving, in carrousels), audios and videos, as well as by inserting hyperlinks, unfolding objects or clickable buttons, to name a few. Last, **interactivity** is another intrinsic affordance to digital texts, as it allows them to "not only represent certain meanings but also enable 'users' to act at given sites and achieve certain effects. Links, buttons, search fields, and so on are not only signs making meaning on the page, they are also sites of action, producing a changed textual situation" (Adami 2015: 134). This implies that users can take action in the website display in a vast number of ways (e.g. clicking, typing, hovering, scrolling, tapping, dragging), triggering implications for the routes they follow when they navigate from one page to the following one and the ways at their disposal to organise and consume the content published.

To the technical end of the continuum, I have first arranged website-dependent affordances, which are enabled by the digital medium, but contingent on the nature and structure of each website, as the tangible instantiation that mediates online communication among users. One of these comprises **immediacy**, which "is a core feature of new technologies, enabling unprecedented speed of access to materials and world events as they happen" (Conole and Dyke 2004: 116). Immediacy refers to the perpetual option offered to users to access, publish, update and share new information. While ubiquity has been argued to refer to the lack of physical and timely restrictions to go on the Internet, immediacy refers to users' chance to alter the content available online in any manner they want at a very quick pace.

Connectedness is conceived of as another technical affordance of webs through which users may handle all the digital resources and platforms in ways that sustain a social culture and foster regular habits. There are a number of websites which we typically consult on a daily basis directly, and which are therefore prominent in our usage of the net. Additionally, connectedness

establishes the bridge between authors and readers, between producers and consumers and turn websites into loci where interactants and digital texts are gathered. This affordance should then be matched with the concept of 'virtual discourse communities' (e.g. Herring 2004, 2008) or 'online communities of practice' (e.g. Androutsopoulos 2008; Angouri 2016), in which self-sustained participation gives way to building interpersonal relationships around common interests and self-awareness of the group in opposition to *other* groups.

As a key feature of how websites promote the weaving of data and users **hypertextuality** stands out. As for the origins of the term, the French literary theorist Gérard Genette considered hypertextuality as "any relationship uniting a text B (which I shall call the hypertext) to an earlier text A (I shall, of course, call it the hypotext), upon which it is grafted in a manner that is not that of commentary" (Genette 1997: 5). Hypertextuality then refers to "the degree of interconnectivity of individual parts of the message in an extended chain of integrated content" (Oblak 2005: 93). This condition on texts is hugely exploited in digital communication through the possibility of inserting blue-coloured hyperlinks containing URLs (Uniform Resource Locators). They can be explicitly pasted in digital texts or enclosed in a string of words within the text, allowing users to travel from one site to the following one in a network of texts, genres, authors and contents. A further affordance seems to logically derive from the notion of hypertextuality, originally conceived in print format texts with much more rigid boundaries than digital ones. Hypertextuality is enacted by the new affordances users can activate in web environments and results in hypermediality/hypermodality. As explored in Subsection 2.4.1, just as texts can be connected and interlaced, modes and media can also be linked and exploited by users thanks to the net-shaped and multi-layered architecture of the web. These linking mechanisms participate in the meaning-making process and constitute the overall hypertext dimension of the Internet by embedding hypermedial and hypermodal resources (Petroni 2011). Thus, new interactions arise for users, following a syntagmatic organisation through semiotic artefacts whose nature may combine word, image and audio. The juxtaposition of multifarious design resources (in the end, semiotic modes) produces manifold potential and explicit connections among them and facilitates routes of complex networks for users to go through (Lemke 2002).

Related to the previous affordances lies **embeddedness**, as the possibility of creating nested texts that, though hyperlinking, help construct the pathway and navigability of a website. Taking back Brügger's (2009) model, represented in Figure 4.1 above, within the Internet architecture, the website and the webpage are the next units that can be identified, where information may be grouped and a hierarchy of texts can be crafted by creating posts within a webpage and webpages within a website. This inner structure of embedded texts also enables the straightforward inclusion of social media profiles and feeds within a website as well as the insertion of interactive multimodal resources created outside a website, such as audiovisual items (e.g. podcasts, videos), graphical items (e.g. figures, tables, maps) and slide shows (e.g. presentations, brochures). Hence, this affordance offers users new design possibilities by leveraging the hypermodal and hypermedial options of the website.

Regarding the other end of communicative set of affordances captured in Figure 4.2, websites are characterised by both user-dependent affordances –i.e. potential actions that individuals can take in their discourse performances to negotiate meanings and interactions in

their texts– and practice-dependent affordances –i.e. conventional and regular uses that provide individuals' texts with additional operational functions and relations.

Focusing on user-dependent ones, **dialogicity** points out to the possibilities for interaction that can take place in a communicative online event. A general view of this affordance points at any exchange of beliefs, attitudes and perspectives, by which interactants, from their intersubjective positions, try to arrive at mutually satisfying positions through open and negotiated discussion (Kent and Taylor 1998). In their edited book on specialised genres, Gil-Salom and Soler-Monreal (2014: vii) argue that 'dialogue' presents a two-fold nature at whose centre lies the notion of action. Dialogue is then to be regarded "both as dialogic interaction between human beings and dialogic relations between words and texts. […] as being made up of intentional actions and reactions of human beings". Dialogicity can then be realised in digital texts through implicit and explicit mechanisms, according to users' actions, their particular purposes and intended effects and the reactions of readers of those texts, thus leading to unidirectional and bidirectional patterns of interaction. Bondi (2018b) identifies three dialogic phenomena in so doing: participant-oriented features, action-oriented features and evaluative dialogue. Taken together, these phenomena assist in framing the arguments of writers and readers and observing how polylogues are established addressing different participants around the topic of a digital text.

The rise of publication practices in the web in languages other than English has led to the proliferation of **multilingualism**. Websites can include different languages to offer the same content in translated versions that may reach wider transnational audiences, as much as users can diversify the information published, using global or local languages depending on the publics being addressed. As stated in Chapter 1, the phenomenon of multilingualism has seen an increase in research endeavours, to comprehend how digital settings can bridge the gap for speakers of different mother tongues, contributing to the globalised, networked nature of current communicative situations. According to Androutsopoulos (2006), this multilingualism is exploited at the juncture of two overriding trends in CMC, namely the predominance of English as a Lingua Franca (ELF) and the possibility of representing linguistic diversity online. He argues that global and local forces feed one another in how linguistic diversity develops online, and this has resulted in choosing various languages related to particular modes of computer-mediated discourse and in benefits for language maintenance and revitalisation.

The third of the user-dependent communicative affordances is **malleability**, connected to the technical affordance of immediacy. It is the property of web texts to be edited and modified by users after the original moment of publication. Changes may involve not only content but also the visual layout of the webpage and the layered organisation of the content. Such an affordance is especially suitable for web-dependent texts that are hosted in Internet search engines. This does not apply to social media, for instance, WhatsApp or Twitter, where messages and tweets, cannot be edited once they have been sent. Texts in the websites may go through a process of revision and editing after they have been published, may be expanded or shortened based on the necessities and goals of the authors, and might be altered in unlimited ways so that different versions of the same text (but still the same URL) are created –the latest version substituting any previous one.

The last affordance within the set of user-dependent ones is **(in)formality**. (In)formality is determined by users' particular choices in diverse social communicative situations online, in that varying degrees of formal and informal discourse can be sought through different semiotic resources and based on their goals and necessities. These choices, especially at the informal end of the formal-informal dichotomy, also depend on the digital setting where communication takes place. As an example, social media invite users to keep a more informal register through the possibility of exploiting technical resources and linguistic patterns. Emojis are one of the resources conveying informality and rapport, as visual representations of emotions, objects and ideas. Other multimodal texts and genres, such as memes and GIFs, also contribute to boosting an informal and close atmosphere for interaction to occur. As linguistic items, the occurrence of abbreviations, onomatopoeias, acronyms is typical of social media and websites, reckoned to be central features of 'netspeak', explained in Section 2.1. The role of typography in digitally-mediated communication is also worth mentioning concerning (in)formality, since it constitutes a powerful semiotic resource for multimodal meaning-making due to the richness of its structures and flexible functions (Stöckl 2014). The myriad of typographic resources (e.g. in bold, highlighted, crossed, italics, coloured, boxed, font size, etc.) let users highlight key ideas in their verbal texts and drive users according to their interest, having communicative repercussions and influencing the way readers consume the content published in the website. Therefore, typography can be employed by users to adhere to (in)formal registers, and to put forward informational, argumentative or promotional styles.

Lastly, four affordances have been identified in Figure 4.2 as inherent to the recurrent practices adopted by users, endured through time and repeated in their exploitation of web communication and digital genres: dynamicity, remediation, interdiscursivity and expressivity. **Dynamicity** implies that the Internet allows users to exchange and manage content in a matter of seconds, creating and publishing new information, as well as editing or deleting existing one repeatedly. In websites, this dynamicity mainly concerns textual artefacts, but in social media it also refers to the quick responses and reactions that users can add to the published content. In the end, it is users who decide how often and what for new content is released, having the possibility of sharing it and receiving feedback from other users.

Remediation is understood as an affordance that enables users to manage the content they post in diverse ways, adjusting to the digital media where it is hosted and their inherent characteristics. As such, users' practices reveal the processes by which information is differently presented, acquires new meanings and purposes and promotes interactive opportunities in a given digital context. The underlying idea of remediation is that "media are continually commenting on, reproducing, and replacing each other" (Bolter and Grusin 2000: 55). As a consequence, generic instantiations of users' texts should be comprehended as presenting a hybrid nature that brings together old and new features, whether such instantiations are indigenous to the Internet or remodelled from analogue counterparts (Heyd 2016). A general example is offered by Petroni (2019: 273), who claims that "a website, a portal or a social network […] remediate television, radio, TV, news, journals, letters (email) and face-to-face conversation (chat) simultaneously", thus acknowledging the original sources where information comes from and the ways it has

potentially been reshaped and repurposed. In the context of the present study, texts and genres in the website can be recontextualised and remediated in social media platforms, and *vice versa.*

Originated from Bakhtin's (1981) notion of heteroglossia, **interdiscursivity** is also a potential asset of digitally-mediated contexts, by which speakers purposely mix styles, discourses and genres in their new contributions. Candlin and Maley (1997: 203) argue that "discourses are made internally viable by the incorporation of such *intertextual* and *interdiscursive* elements" and are "associated with some institutional and social meaning" that make them interdiscursive. Interdiscursivity has been a central concern especially in Critical Discourse Analysis (CDA) (e.g. Fairclough 1995) and Genre Studies (e.g. Bhatia 2004, 2017). Precisely, Bhatia (2004: xvi) emphasises the idea that interdiscursivity is entrenched in how speakers cater for their private intentions through the "careful 'exploitation' or 'manipulation' of shared genre conventions […] in a variety of interacting relationships with one another, unfolding rich and often complex patterns of interdiscursivity". As Vásquez (2015: 66-67) states, "recent work on digital discourse and digital practices has shown that intertextuality can be found in virtually all types of online discourse", and this systematic permeation in digital communicative situations encourages the growing role of interdiscursivity. This is also the case of websites, such as research project ones (and social media profiles, as will be explicated in Section 4.2).

Finally, **expressivity** involves users' practices when presenting themselves as affective, caring, serious in digital interactions. The interplay of verbal, auditory and visual modes in digitally-mediated communication bolters the mechanisms through which users can manage such expressivity. Word choice, typography, gestures or tone of voice, among many others, are decisive in how users negotiate the level of expressivity they expect from other users and replicate as interactants. This is also related to (in)formality and brings along diverse levels of creativity that result in new forms of expression and generic practices, such as emojis, memes, GIFs, likes. Although it may depend on the type of website, it is then likely that particular discourse communities would display a certain degree of expressivity and agree on a set of norms and resources to convey it.

In all, the sets of both technical and communicative affordances pertinent to web environments that have been presented exert an inevitable influence on the way users manage the information they want to publish and consume. Subsequently, the practices of the authors and users involved in a digital communicative event (such as the ones enclosed in RPWs and TRDP) may be greatly determined by both the technical factors and their own expertise and literacies, deploying diverse levels of exploitation of the existing affordances. To this already challenging analysis of digital texts, we should add the sociolinguistic factors inherent to the human condition and influencing the situated communicative events, as in any other type of discursive analysis. As follows I narrow down the scope by moving from the general notion of the website to one specific generic instantiation responding to scientific and professional goals: the research project website.

Research Project Websites (RPWs) are complex digital artefacts that share the formal properties of all websites but have emerged as a specific and distinguishable type because of their internal structure, overarching goals and thematic content. As other digital texts, RPWs are made up of a number of different webpages, with specific functions and contents that are embedded and hyperlinked. Drawing on Catenaccio's (2012: 27) definition, RPWs can be as well "considered

prima facie as collections of written texts and other oral/visual documents created and maintained by organisations or individuals to communicate information about themselves to the public at large". The combination of visual elements, hyperlinks and typographic resources is crucial to configure the layout of the contents presented by research groups and to convey their intentions when disseminating their research projects. Aligning with Caiazzo's (2014: 307) analysis on university websites, heterogeneity is predominant in the way research project websites are constructed and updated, and accordingly they "display a wide range of solutions, which include, at the two ends of the spectrum, cases in which the verbal component plays a leading role and cases in which information is mainly conveyed by pictures and navigation options".

This sort of websites purports to gather the important information relevant to the project which may expand the impact and ease the understanding of the research being undertaken. As such, values such as informativity and credibility are essential, in an attempt to provide users with objective data about the working and setting of the project, but also with trustworthy information about the processes, plans and stages considered to be effective in the implementation of the research. When reflecting about these communicative functions, informants identified various advantages and benefits in designing and updating a RPW in order to coordinate and display the project information and progress. Three functions were mainly highlighted for this type of websites: 1) Accountability of public expenditure; 2) Networking with future stakeholders; and 3) Visibility of the project. Table 4.1 collects some excerpts from the semi-structured interviews (see Appendix V) in which informants reported on these three aspects and discussed them as related to their corresponding projects:

Accountability of public expenditure	Lo primero, mostrar que este proyecto está financiado, que está activo, que se están haciendo actividades y que a raíz de todas esas actividades se van a obtener resultados importantes desde el punto de vista científico. Pero diría que muchas veces los proyectos acaban y es realmente ese momento cuando empiezas a producir resultaos. Va un poco desfasado. Supuestamente hay que mantener la página web durante tres o cinco años, pero claro, el proyecto ya no puede disponer de recursos para pagar ese mantenimiento. [Firstly, showing that the project has been financed, that is active, that we are doing activities and as a result of them important results from the scientific point of view are to be obtained. However, I would say that many times projects finish and it is really in that moment when you begin to produce results. It is a bit out-of-step. Allegedly we need to maintain the website for three to five years, but of course, the project does no longer have resources in order to pay for that maintenance.] (Informant 4 – IRP23)[18]

[18] As I claimed in Section 3.3, the semi-structured interviews were carried out in Spanish –which was the mother tongue I shared with the informants– for the sake researchers' and clarity of their responses. The data obtained and employed in this PhD thesis are therefore offered in the two languages: first I include the original excerpts in Spanish and then I propose a translation of them into English.

Networking with future stakeholders	Dar a conocer lo que hacemos y poder atraer a futuros *partners*, o sea, hacer un *networking* al final. Entonces, alguien que se dedique, yo que sé, a valorizar gas natural, en este mundo de la industria química, pues puede ver qué *partners* han estado aquí y entonces pueden entrar en contacto con los líderes de cada grupo de investigación para generar futuras colaboraciones. [Spread out what we do and be able to attract the attention of future partners, that is, fostering networking in the end. Then, someone who is dedicated, for instance, to valuing natural gas, in this world of the chemistry industry, can check which partners have been here and then can get in touch with the leaders of each research group in order to generate future collaboration.] (Informant 3 – IRP03)
Visibility of the project	Las funciones básicas son visibilidad y difusión a la sociedad […], y no tanto que los *partners* estén al día del proyecto. Yo creo que la web es más de cara a la sociedad y a la galería que a los propios miembros del proyecto. El nivel de profundidad es muy bajo, y creo que no debería ser más, porque hay otros caminos para estar al tanto por parte de los miembros. [The main functions are visibility and dissemination to society […], and not so much for partners to keep track of the project. I think that the web is rather addressed to society and more geared towards the public than towards the project members themselves. The level of depth is very low, and I believe that it shouldn't be any higher, as there are other pathways to keep up to date on the part of the members.] (Informant 2 – IRP20) Principalmente para visualización. Para nosotros, sobre todo lo demás, es una página muy atractiva. [It is primarily for visualisation. To us, above other things, it is a very appealing website.] (Informant 1 – IRP17)

TABLE 4.1. Informants' views on RPW communicative functions.

Insights from the semi-structured interviews seem to comply with recent analyses of digital genres and social media about how these can be exploited for scientific and professional ends. In the editorial of their co-edited Special Issue on *Scientific and Parascientific Communication*, Mur-Dueñas and Lorés (2022: 1) highlight how increasingly in many backdrops "communicating scientific knowledge and engaging the public is currently of paramount importance for funding and accountability reasons". In the end, it is a *quid pro quo* relationship, where research groups need to provide transparent and factual evidence of when, how and why they are spending the expenditure they have been granted.

The second function identified is in broad terms tied with the notion of 'sociability' and how language practices in the new media are characterised by "semiotic materiality, access to networked resources, and orientation to a networked audience" (Androutsopoulos 2014: 6). Mirroring the 'network histories' foregrounded by Curry and Lillis (2010) in the dynamics of scholarly publication practices, networking is fostered in research project websites along various continuums: local/transnational, formal/informal, strong/weak, and durable/temporary.

Eventually, the visibility of the research project is quintessential for researchers to try to reach a wide audience, have a bigger impact and develop a digital identity that makes the project recognisable and notorious. Yet, the concept of visibility is still elusive due to its multifacetedness, which is amplified in digitally-mediated communication. In the case of research groups, Lorés and Herrando-Rodrigo (2020: 84) affirm that e-visibility is "shaped by information generated by the researchers themselves and by others', and also by the context of the researchers' network", matching the previous function pinpointed, and that overall "e-visibility, academic visibility, digital identity, metrics, impact factor or cybermetrics (interactivity) start to gain importance to curate our e-profile".

As follows I come to discuss how these three main functions are partly realised in the different web sections and webpages of research project websites. Definitions and instances of the *Homepage*, the *About* section, the *Partners* section, the *News & Events* section and other likely less prominent section are provided to identify and describe the research groups' digital practices in the dissemination of their international projects.

4.1.1. The *Homepage*: The window entrance into research project websites

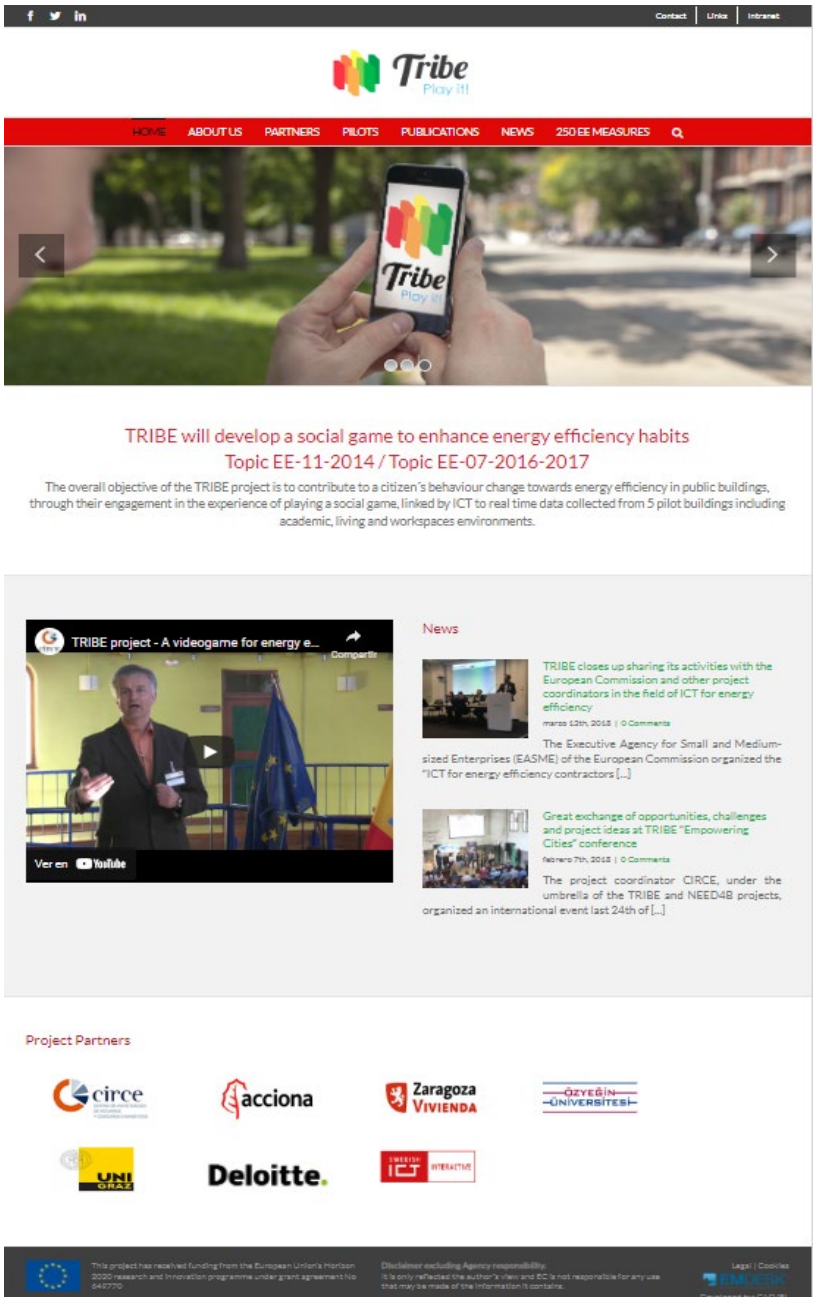
A *Homepage* is a non-linear multimodal digital text, native to the Internet and applicable to any website when users introduce an URL or click to access a web in a search engine results page. It constitutes "the top level document of a web site" (Askehave and Nielsen 2005: 123), "is the most highly valued page within a website" (Djonov and Knox 2014: 176) and "functions as an open door for the rest of the site" (Lorés 2020: 4). A homepage is, ideally, the first contact users establish when entering a website, and the first layer of depth for them to start interacting with and navigating through the contents published. Deeper navigation is enabled through internal hyperlinks, which ensure a consistent configuration and showcase the interconnection between the homepage and the web architecture, i.e. other pages and sections. Two formal elements from a technical perspective are part of the website design of the *Homepage*: the banner at the top and the footer at the bottom. The banner is the first overview users have when accessing the website through the *Homepage* and it is framed on the screen, without the user having to scroll down to see the whole picture. It may include logos, icons, clickable buttons to redirect users, carrousels of images that slide by to show users a panoramic view of project-related concepts and actions, social media icons, the menu of the website and other gadgets, i.e. search tool bars. The footer is at the bottom of the website and, unlike the banner, cuts across the whole website, insofar as users can view it when they completely scroll down the *Homepage*, but it will also remain visible at the bottom when users navigate through other webpages from the menu and indistinctively from other website sections. It tends to contain indispensable information about the website authors (e.g. address, e-mail contacts, privacy statement, funders).

The *Homepage* manifests several overriding functions, containing personalised data, acting as an introductory and informative contents page, giving visitors both a quick general outline and enticing bits of the website, and activating options for navigation, as a gateway users

land on but will not probably stay at. The *Homepage* is the highest level theme and the unifying asset for the hierarchies of themes within a website (Djonov 2007). The remaining webpages hosted on that website are placed below, forming a hierarchy of subsequent themes that branches off into pages, sections and subsections. Therefore, *Homepages* mirror the objectives and organisation of the entire website where they are housed.

Homepages have no clear print equivalent, but seem to have found a common set of generic features, despite often demonstrating a highly idiosyncratic use (Dillon and Gushrowski 2000), as they have expanded as a digital practice. They are characterised by frequent updating of their content and likely redesign and restructuring in their development. The verbal mode is accompanied by other modes, especially the visual one, and they together enhance the meaning-making processes captured in the *Homepage* layout as well as users' possibilities to consume the content published there. *Homepages* comply with the dynamic and malleable nature of websites, in that their appearance and the presentation of information can be modified, changing the significance of some pages or sections over others and the relationship between authors and readers (Djonov and Knox 2014), in such a way that consecutive versions of a *Homepage* bring about new experiences for users.

However, the *Homepage* may take different generic instantiations, depending on the web affordances exploited, the communicative purpose pursued and the expected audience targeted. Context-embedded generic instances of *Homepage*s should then be carefully explored (e.g. commercial, corporate, educational homepages), so that features salient to specific domains of homepages for clear-cut communicative goals can be sketched. In situated contexts of scholarly and scientific discourse, *Homepages* have "become almost obligatory for academics to maintain some kind of online presence" and are maximised as "a platform for global visibility and a declaration of academic credibility" (Hyland 2011: 288). They may encompass both individual academic homepages and homepages maintained by collective groups, for instance, university departments and research groups. The *Homepage* crafted for RPWs (see Example 4.1) embodies a digital practice leveraged by international research consortia to present the inception, rationale and development of their impactful, large-scale investigations and reach potentially interested users, such as stakeholders and beneficiaries.



EXAMPLE 4.1 – IRP18 – *Homepage*

At the broader level, the website functions as repository and transmitter of scientific research values responding to specific communication plans and the pressing demands of public engagement (Lorés 2020). The team of project members maximise the technical affordances of the website and endorse purposeful discursive choices to highlight a digital identity which is multi-faceted, collective, fluid and negotiated and which ranges alongside professional, collective and social traits.

Homepages in these websites also have the mission of establishing "the identity and mission of the website and the organisation it represents" (Corona 2021: 112). They reveal research groups' communicative intentions, facilitate orientation into the rest of project-related webpages, depict a one-to-many communication channel that fosters research groups' visibility and credibility, and are constantly under construction for research groups to manage their public

projection. Thus, research project *Homepages* are useful for research groups to update their latest actions and coherently build a digital identity, which may underline their positive self-representation, their belonging to particular discourse communities, a strategic self-branding towards diversified audiences and their self-awareness of the interplay between the research process and its dissemination. These aspects unfold in research project *Homepages* much more than in web sections including technical information, since they address multiple target audiences, expert and non-expert, for different purposes (Lorés 2020).

The crafting of these *Homepages* is therefore influenced by the diverse goals the research groups pursue, such as negotiating their collective identity, making updates, announcements and calls for action, disseminating the outcomes and outlets of the project, inviting readers to consume project contents and interacting with other researchers and lay users. Exploring such goals from a pragmatic perspective that incorporates verbal and non-verbal meaning-making devices may cast light onto research groups' intentions in their project *Homepages*, and reveal how they can achieve greater visibility and reputation. The combination of primarily verbal and visual semiotic modes in the architecture and content design of the *Homepages* renders multimodal digital communicative artefacts pertinent and appealing to varying degrees and allows for the choice of manifold reading paths for users. This results in the predominance of a 'navigating mode' (Askehave and Nielsen 2005), where users can select how to consume information according to their intentions and interests, (un)consciously favouring some 'clusters' (defined in Subsection 2.4.1) of information over others.

About how researchers perceive the homepages of their international project websites, one of the informants interestingly remarks that they are a venue to collect and wrap up the data of the project, as well as make them accessible to heterogeneous readers by filtering the important information:

> Lo que puedo ver es que queda bastante claro tanto la definición del proyecto, qué es lo que se espera obtener de él, la duración, presupuesto, y los *partners*… O sea, es como un índice […] que es muy fácilmente navegable, o sea *user-friendly*… De un vistazo, en dos minutos, te puedes hacer muy bien a la idea de qué va el proyecto y quiénes son los *partners* que lo conforman.
>
> [What I can see is that the definition of the project is pretty clear: what it is expected to be obtained from it, its duration, its budget, and the partners… I mean, it is like an outline […] which is easily navigated through, that is, user-friendly… At a glance, in two minutes, you can get a very good idea of what the project is about and who the partners that make it up are.]
>
> (Informant 3 – IRP21)

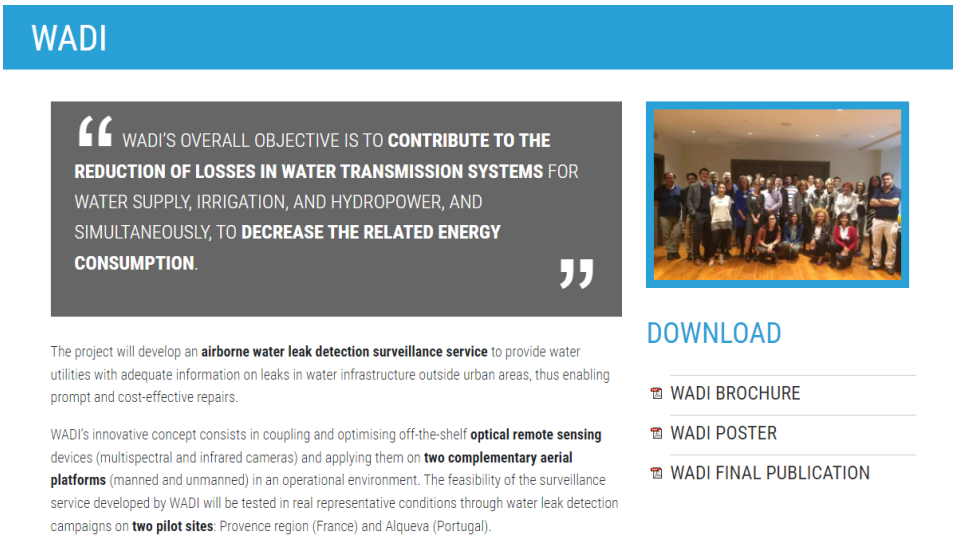
Visitors of research project websites can access them through specific links or from social media accounts. Nevertheless, if users land on the *Homepage* of RPWs, as the starting point in the architecture of a website, they may likely continue their navigating path to explore information about the projects through the *About* section, which is conceptualised in the upcoming subsection.

4.1.2. The *About* section: A genre for project description

In the literature, growing interest had led researchers to analyse the genre of *About* webpages as being located in websites connected with various academic and professional endeavours. These mainly focus on the contexts of corporate communication (e.g. Casañ Pitarch 2015; Tenca 2018), university profiling (e.g. Caiazzo 2013, 2014; Villanueva, Dolom and Belen 2018) and research enterprises (e.g. Luzón 2019; Lorés 2020). Generally speaking, the *About* section is intended to comprise introductory webpages for self-representation where the main object around which the website revolves is identified and described in detail. In Caiazzo's (2013: 257) words, "'About' page plays a relevant role in the general framework of a website, in that it provides a quick overview of the characteristics and goals of a company, organization or institution". Thus, these sections unveil the rationale, profile and general structure of individuals, groups, institutions and companies.

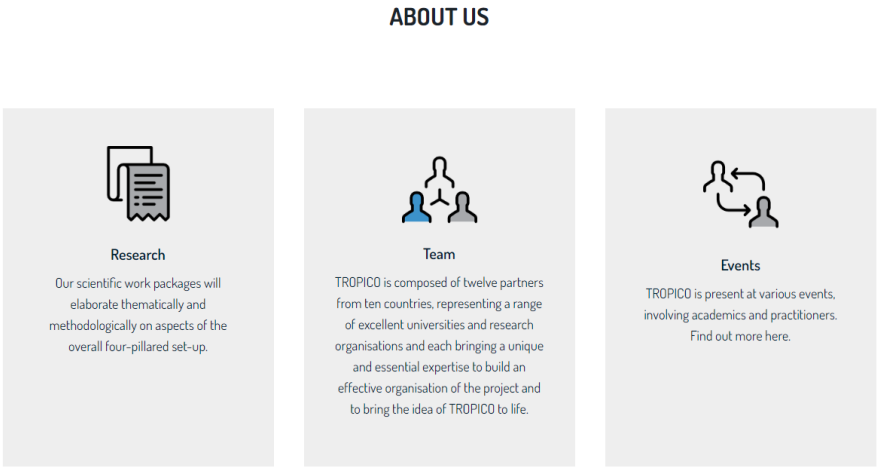
The *About* section is devoted to a collective entity in the particular case of research project websites. They tend to be placed first in the top menu of such websites in order to underline its centrality to the project and its importance for diversified audiences to get to comprehend the investigation at work. These sections present the mission of the project, underline the main objectives that the research group has set and specify the resources and agents involved in accomplishing those objectives. Texts in the *About* section seem to establish genre relations with other offline texts previously produced by research groups, such as reports and documents for calls. Hence, we can easily see a reconfiguration of offline sources into the digital sphere, with processes of hybridisation and interdiscursivity (Bhatia 2004). In this regard, the *About* section in RPWs may comply, as in other scenarios, with features recurrent in promotional professional genres, interweaving description and evaluation and endorsing positive and favourable values. Overall, verbal texts tend to predominate in these sections, with other modes such as image and video playing strategic roles. The logic to ponder written explanations to disseminate the main project information lies in the necessity of incorporating specialised knowledge that can be hard to be effectively captured through other modes. Hence, the *aboutness* conveyed in these sections entails a high informative load that is often realised in extensive, explanatory texts and distributed through the inclusion of hyperlinks to other web loci.

Example 4.2 shows the configuration of an *About* section, where the prevailing mode to introduce the project and its main aims seems to be the verbal one. Nonetheless, the verbal information is emphasised my multimodal resources, such as colour and typography, with the pursuit of highlighting the key and potentially difficult information for diversified audiences and underscoring self-branding purposes. Hence, we observe a horizontal blue framing device in which the project name is highlighted (blue being the recurrently chosen colour in the website), a dark box where the mission of the project is included in capital letters and, below, a much more detailed description on the general white background of the website featuring the project characteristics and plans. Both parts include words and sentences visually emphasised in bold.



EXAMPLE 4.2 – IRP30 – *About*

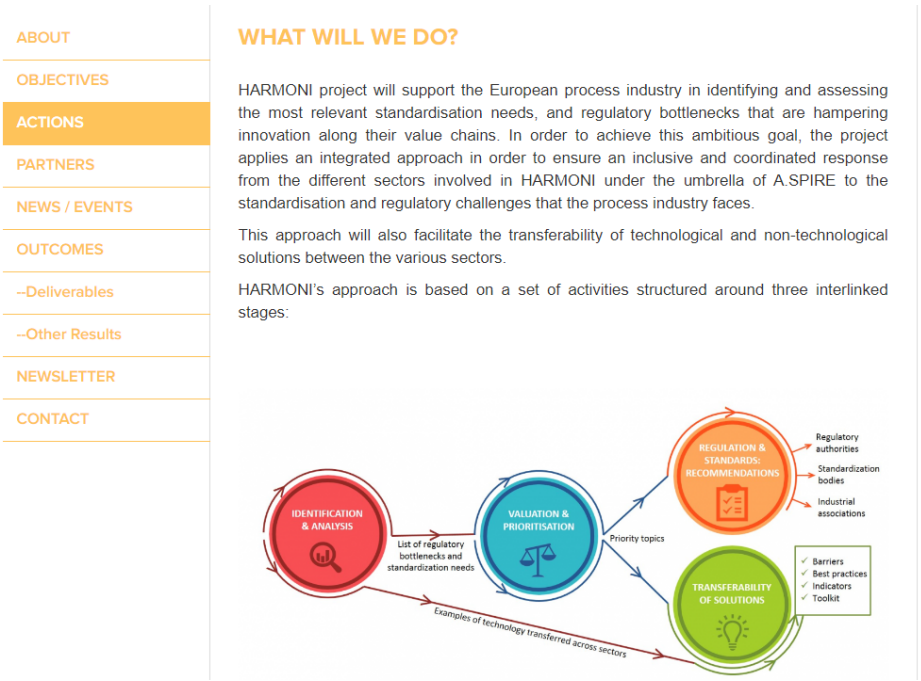
Whereas in the previous example, the section is predominantly verbal, there are also instances of more elaborate *About* sections where other modes are exploited to a higher extent. Example 4.3 displays one of these organisations, as the interactive label included in the menu of the RPW gives way to a layout unfolding three main areas that the research group has put together under their 'About us' information. In this sort of preview panel, in which information is divided into three symmetrical grey areas related to the 'Research', the 'Team' and the 'Events' of the project, users can decide where to go and how to access the verbal texts mentioned above. Short pieces of texts are included below visual icons to let users know what they may discover in each of them when clicking. This instance is also illustrative of a different distribution of the entire website content, where other sections, namely *Partners* and *News & Events*, tend to be overlooked in the *About* sections and are normally hosted separately in the website menu (as will be discussed below).



EXAMPLE 4.3 – IRP19 – *About*

A frequent decision by research groups is to allocate the *About* information in more than just one webpage. If this is the case, such complementary web sections are typically placed next

to the *About* one in the website menu. Such a division of the main information of the project is in alliance with two main purposes: first, to avoid designing one single very long webpage that may not be appealing and effective for users when they access it and, second, to divide the project description into two different spaces that put forward dissimilar levels of technical data and specialised knowledge. Example 4.4 epitomises one of these parallel *About* sections. As can be seen, it is placed right after *About* and *Objectives* in the left-hand menu in order to group very closely related information about the project together. It sets off by trying to engage readers through the question 'What will we do?' and it comprises graphical information so that the complex processing of specialised knowledge and the structure and planning of the project may be facilitated to diverse users.



EXAMPLE 4.4 – IRP10 – *About*

In general terms, the *About* section is crucial in the project description and features RPWs at their core. It is the asset to communicate the goals and characteristics of the research endeavours being undertaken and so it occupies a principal position within the website structure. In this effort of disseminating specialised information, we have seen how sometimes the *About* section is split into two, gathering the most general data of the project in a primary section targeted at the general public and creating another subsidiary section that includes more technical and disciplinary information for interested audiences.

Whereas we have seen that the *About* section focuses on the presentation of the ambitious investigations of research groups, the next subsection is concerned with the *Partners* section, which delves into the presentation of project members.

4.1.3. The *Partners* section: The presentation of project members

The *Partners* section is another cornerstone in the disclosure of the projects to the public and is systematically featured in the menu of RPWs as one of the most relevant pages for users to navigate through. Diverse labels are frequently chosen by research groups for the denomination of this web section, some reinforcing a collective entity (e.g. *Consortium, Team, Our Team*), others rather focusing on the group of individuals (e.g. *Partners, Members, Researchers*). *Partners* sections are particular to websites which are created and maintained by a team of individuals and which reflect collective endeavours and products that result from collaboration. Therefore, these complex formal groups bring together their own background and expertise to the benefit of the research project, but also seek for a payoff in their status and their career. As the study by Vabø et al. (2016: 2) proves, "formalised research groups can have a positive effect on the quality of individual research as well as on researcher training, and […] they contribute to more institution-based research". The differentiating element is that the context under scrutiny surpasses regional and national levels and enhances the internationalisation of the research endeavours. These groups, then, face global enterprises and concerns through a sophisticated structure of researchers and professionals coming from across diverse sociocultural and professional backgrounds. The specific web section labelled as *Partners* deals with the introduction and recognition of such international institutions and individuals, and endorses the communal work of the project and its values like trust, rigour, reputation, credibility.

As such, the communicative purpose of the *Partners* section within research project websites is to introduce the members of the project consortium to the wide public and make explicit reference to their contribution to the investigation. Because of the content they present, the structure they display and the audience they target, they can be identified as an emergent digital genre which has been effected as a consequence of the new communicative needs and goals of groups of users, in this case touching upon research and academic contexts[19]. From this generic perspective, two subsequent communicative purposes can be singled out as inherent to *Partners* sections: 1) to render partners responsible for their role within the project; and 2) to justify the participation of project members due to their background and reputation. These goals are framed within the structure of a website, where affordances are enacted and exploited to dissimilar extents by research groups according to a varied number of variables, e.g. their literacies, the disciplinary expectations, the level of coordination and their personal tastes.

Intrinsically connected with the dynamics of international research projects, as opposed to other contexts where partners may also be relevant, *Partners* sections in RPWs serve two additional, and clearly complementary, functions. First, they are a window to acknowledge the participants involved in the research and introduce their disciplinary and professional backgrounds, justifying, as a result, the consortium that has been created to carry out the investigation. Such introduction of research members is primarily geared towards the funding bodies granting the projects with financing. Partners' information is displayed in such a way that the values of internationalisation, collaboration and professionalism in the amalgam of project

[19] *Partners* sections are also an emergent digital practice in websites developed in other various contexts involving teams and groups of professionals, such as commercial websites, company websites, corporate websites and non-profit websites.

members are enhanced at institutional and human levels. Thus, research groups put forward the positive characteristics and assets of the partners for the project underway who are taking an active role in the development of the project. Second, they present the audience with the 'real' faces and identities of the people involved. In that sense, it is a way to come closer to the audience, offer specific information about the institutes, universities and researchers that are responsible for the investigation, and promote the sense of a collective identity towards the general public. Even though the way partners are introduced may greatly differ, this project identity is conveyed as a facet which researchers seek to establish and boost, and which has positive implications for the investigation overall. The sense of collectiveness is inferred from the partners' individual profiles and from the likely associations that are made explicit in the website among them. As Lorés and Herrando-Rodrigo (2020: 89) manifest, "in Partners webpages, the project is the least visible entity. Proper and common nouns are used to refer to them. Interestingly, more common nouns than proper nouns are used to refer to the project, perhaps to make the institutional profile more visible".

Additionally, readers find in many occasions accurate and brief information about the role played by project members within the project, helping to situate the expertise of the partner and contributing to the general understanding of the structure of the project. Some of these prominent roles are project leaders, work package leaders, technical designers, fieldwork experts or communication planners. In the end, the collective identity of project members may be understood as a group of individual researchers, as a team of institutions or universities, as a single entity with its own institutional value, or simply as workforce for the project goals. This may further evidence the multifaceted identities of research groups and serves as another instance of "the academic researcher role constantly changing towards more differentiated forms of membership and identity in higher education and research" (Vabø et al. 2016: 9).

Supporting the communicative purposes just outlined, one of the informants highlighted the pertinence of conferring a prominent place upon the *Partners* section, also for accountability towards the funding bodies. Additionally, he underlines the positive rewards that the project could obtain by also including bits of such information in the *Homepage* of the project:

> Si yo fuese un externo que viene aquí a ver en qué consiste este proyecto, pues qué partners hay y quién está coordinando esto, porque si quiero contactar con alguien tengo que tener como una persona de contacto, entonces el que nada más entrar a la web salga ya la duración, el presupuesto y el coordinador pues ayuda mucho.
>
> [If I was an external reader that lands on the web to see what this project consists of, I would see which partners there are and who is coordinating this, because if I want to contact someone I have to have a contact person, so it is of great help that just by entering the web there is data about the duration, the budget and the coordinator.]
>
> (Informant 3 – IRP21)

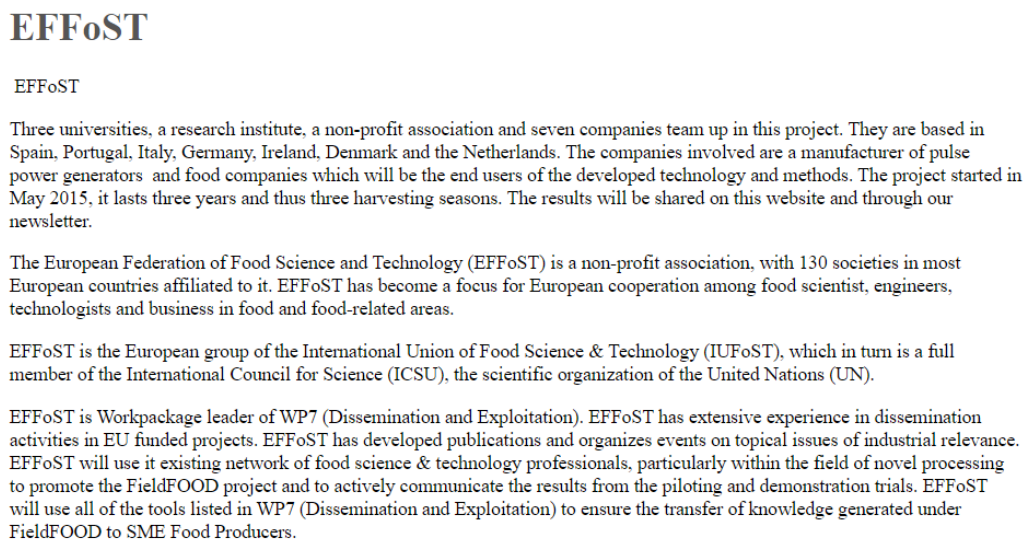
As a result of all these previous ideas, there are clearly observable tendencies in the way *Partners* sections are crafted and research groups' communicative purposes accomplished to justify why project members have joirned the project. While the content presented follows a homogeneous pattern, the design and structure of these sections remain highly heterogeneous.

Users may encounter three main designs for the *Partners* section, which are not be regarded as opposing options, but rather as part of a continuum signalling the efforts made towards the presentation of project members through the exploitation of digital affordances. These would comprise from static to fully interactive sections:

1) **Verbally-driven sections**, where plain text clearly predominates at a glance and a static, fixed configuration has been fostered, diminishing users' navigation possibilities (Example 4.5).

2) **Multimodally-driven sections**, where there are combinations of verbal and visual elements, giving way to dynamic and appealing configurations, and interactivity plays a meaningful role in users' consumption of the texts (Example 4.6).

3) **Hypertextually-driven sections**, where the verbal mode is almost inexistent and the configuration of the page only allows users to access partners' external websites to gain new information (Example 4.7b).



EFFoST

EFFoST

Three universities, a research institute, a non-profit association and seven companies team up in this project. They are based in Spain, Portugal, Italy, Germany, Ireland, Denmark and the Netherlands. The companies involved are a manufacturer of pulse power generators and food companies which will be the end users of the developed technology and methods. The project started in May 2015, it lasts three years and thus three harvesting seasons. The results will be shared on this website and through our newsletter.

The European Federation of Food Science and Technology (EFFoST) is a non-profit association, with 130 societies in most European countries affiliated to it. EFFoST has become a focus for European cooperation among food scientist, engineers, technologists and business in food and food-related areas.

EFFoST is the European group of the International Union of Food Science & Technology (IUFoST), which in turn is a full member of the International Council for Science (ICSU), the scientific organization of the United Nations (UN).

EFFoST is Workpackage leader of WP7 (Dissemination and Exploitation). EFFoST has extensive experience in dissemination activities in EU funded projects. EFFoST has developed publications and organizes events on topical issues of industrial relevance. EFFoST will use it existing network of food science & technology professionals, particularly within the field of novel processing to promote the FieldFOOD project and to actively communicate the results from the piloting and demonstration trials. EFFoST will use all of the tools listed in WP7 (Dissemination and Exploitation) to ensure the transfer of knowledge generated under FieldFOOD to SME Food Producers.

EXAMPLE 4.5 – IRP07 – *Partners*

Focusing on the second and third types of *Partners* sections presented above, three main types of visual configuration stand out in the presentation of the project consortium, based on the multimodal and hypertextual design choices made by research groups:

i) List of partners with an interactive side menu and rather static verbal descriptions (Example 4.6)

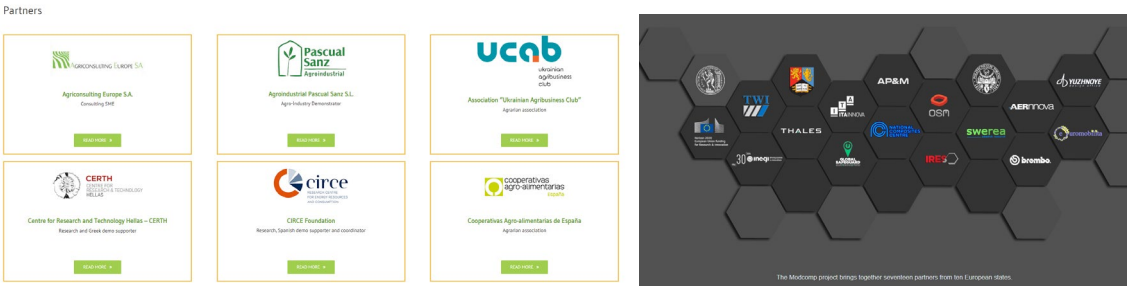
ii) Grid including all the partners and featuring internal hyperlinks to embedded webpages where more information can be accessed (Example 4.7a)

iii) List/Grid/Panel providing external links to lead users to the project members' own websites, where more details about them can be read (Example 4.7b).

In Example 4.6, it is observed how the presence of a blue side menu where all the projects are enumerated and the logo of the partner in question appears configures the *Partner* section a multimodal composition. Yet, the specific presentation of project members is carried out by featuring primarily verbal texts. The use of bold font and bullet points contribute, however, to making some fragments of the text more salient. Although hyperlinks have not been included within the partners' description, their institutional websites are offered at the end of the entry.

EXAMPLE 4.6 – IRP12– *Partners*

The two snapshots illustrated in Example 4.7 point at cases where hypertextual and multimodal resources have been exploited in the crafting of the *Partners* section. A grid and a panel can respectively be seen to organise the information consistently and facilitate users' overview of the consortium. Then, options have been given, in the first case, driving users to inner webpages within the *Partners* section, and, in the second case, leading to websites of the project members outside the RPW.



EXAMPLE 4.7a and 4.7b – IRP01 and IRP13 – *Partners*

Informants were also asked about how the profiles of the project members had been created in the research project website. Apparently, information about the partners was centralised by forwarding it to the specific partner in charge of 'filling' the web section. Once the list of project members featured the *Partners* section, additional information on the activities and actions developed by each of them was also acknowledged in other web sections, pointing at the

fragmentation of the partners' e-visibility and bringing along processes of interdiscursivity, where promotional, corporate and academic discourses blend together for a positive representation of the whole consortium and its individual components:

> Se pidió información de lo que es cada uno de las *partners*, en nuestro caso la Universidad de Zaragoza, y les mandabas información que creías tú más relevante y figuras, y a partir de ahí se hacía link. Y luego ellos actualizan todo lo que son las noticias, los artículos, que los van colgando.
>
> [Information was requested of what each of the partners is like, in our case the Universidad de Zaragoza, and you sent them the information and figures you considered most relevant, and on that basis a link was created. Then, they updated everything related to news and articles, which were gradually uploaded.]
>
> (Informant 1 – IRP17)

A final note should be made in relation to the particular multimodal elements that are typically resorted to in the *Partners* section. On top of logos representing the partners, which have been illustrated in several of the examples so far, it may be the case that research groups decide to insert graphical resources to provide users with a general overview of the consortium. Two recurrent instances concern tables and maps. They both underline the partners' countries of origin, but differ in the interactivity enacted by users. Unlike in tables, maps frequently allow users to hover over them and find out the partners' profiles by themselves. Example 4.8 shows how the research group has included some instructions next to the map for users to discover the project members by clicking on the different countries highlighted in red and through their logos. More information would pop up if users were to click on the partner logo itself.

EXAMPLE 4.8 – IRP29 – *Partners*

After having conceptualised *Partners* sections, we move on to find out the content and the structure of a dynamic section where international research groups keep track of their evolution and productivity: the *News & Events* section.

4.1.4. The *News & Events* section: A space for events, activities, outlets

The case of webpages devoted to the news and events surrounding the research group is also meaningful within research project websites, though the configuration of the *News & Events* section may not be as systematic as other web sections. Perhaps different structuring and formatting in this section may due to project-external factors, such as the disciplinary field of the investigation, the expertise of the researchers updating web content and the degree of the consortium's involvement in activities and transfer of results. Yet, the content published as part of the project news and events usually follows the same direction: to report on the productivity of the project and its members and to circulate information about the progress of the research and its various outputs.

Such aims are typically met by referring to both traditional, academic and non-academic, socially-oriented activities. Academic activities tend to comprise the publication of research articles in indexed and prestigious journals, the participation of project members at conferences and workshops, the organisation of periodical project meetings where the consortium gathers to review and discuss the development of research, and the preparation and implementation of scientific experiments. Non-academic activities are more narrowly tied to the particular nature and ambition of the project in question and may comprise researchers' invitation to citizens to collaborate in the project, the implementation of measures and demos in specific venues, the organisation of or participation at informal get-togethers and seasonal fairs where to interact with interested publics, as well as offering training to users in the research fields of the project. Additionally, one more sphere of content that is recurrently included in the *News & Events* of IRPs lies in the explicit recognition of cornerstones and landmarks that positively affect the planned development and effective progression of the project. Pieces of news on these aspects may deal with the onset and finalisation of the project itself or of work packages, the overtaking of the project equator, the addition of new partners to the consortium, the organisation of a project-related final conference and the launching of complementary digital practices and social media accounts (e.g. blogs, YouTube channel, ResearchGate profile, GitHub repository), among others.

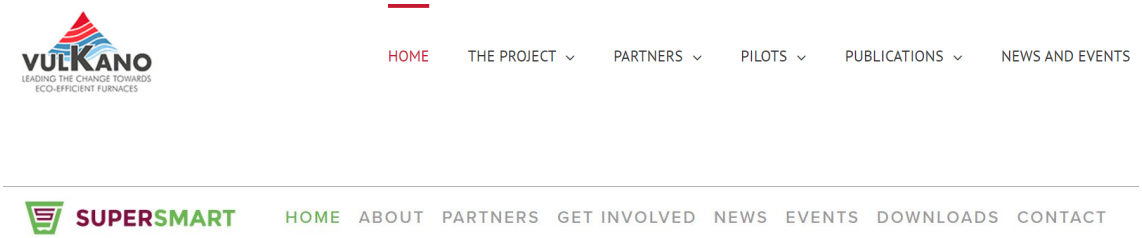
As a novel instance in researchers' galaxy of digital practices, a generic perspective applied to the *News & Events* section unveils processes of genre hybridity and interdiscursivity in how they work and what communicative purposes they seek to achieve. First, webpages within the *News & Events* section seem to settle one more scenario complying with Bird's (2009: 293) reflection on the prospect of digital journalism, in that "the new environment opens up the field of journalistic practice as never before, with 'citizen journalists', bloggers, and news group participants blurring the line between news producer and news audience". Naturally, these sections should not be understood as a journalistic genre, but are imbued within the generic conventions of (online) news discourse, for example, placing headings on top of the texts, enhancing combinations of verbal text with images, emphasising the notion of newsworthiness and listing *News & Events* entries chronologically. Similarly, they may evidence properties and features shared with the genre of press releases, which, according to Catenaccio (2008: 15), "have been often described as news article look-alikes whose real identity is betrayed by a detectable positive bias towards the featured company/institution", interweaving goals of informative and promotional discourses. The configuration of the main webpage of the *News & Events* section,

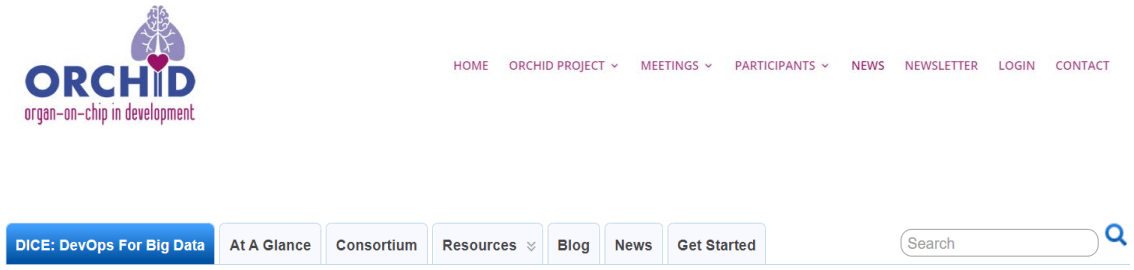
from where users can navigate through the news entries, resembles generic features of newsbites of online newspapers (Knox 2007), providing users with a steady stream of information pieces valued as relevant by the research group.

Other generic relations can be established with blogs and newsletters. These practices are either complementary or substitutive forms of offering project news and events, depending on how research groups decide to organise their websites and update the project information. As of blogs, Luzón (2018: 430) claims that "science communication in blogs takes many forms, for example, comments on daily news related to science, discussion of disciplinary issues and new scientific findings, comments on recently published papers by other researchers, pedagogical posts". To a great extent, this range of topics coincides with the ones discussed in *News & Events* sections. Moreover, such sections, as blogs of all domains, are also featured by their intersubjective and intertextual potential (Pascual 2021), since writers and readers share close concerns and negotiate their diffuse roles, and multiple connections with a network of other texts are particularly favoured.

Concerning newsletters, the definition indicated in the Merriam-Webster dictionary states that a newsletter is "a small publication (such as a leaflet or newspaper) containing news of interest chiefly to a special group". It is then a way of grouping together in a single web-hosted document the news and events of the project –on top of uploading periodically web-native texts in the shape of posts with the extended information. Some websites place the *Newsletter* as another menu option, or include the possibility for users to sign up in order to receive project information via other website-external channels, such as e-mails, as a way to further engage interested users in the project. Remarkably, the launching of newsletters tends to be publicised in the *News & Events* sections of IRPs, in a way that both practices nurture each other and help expand the visibility of the project.

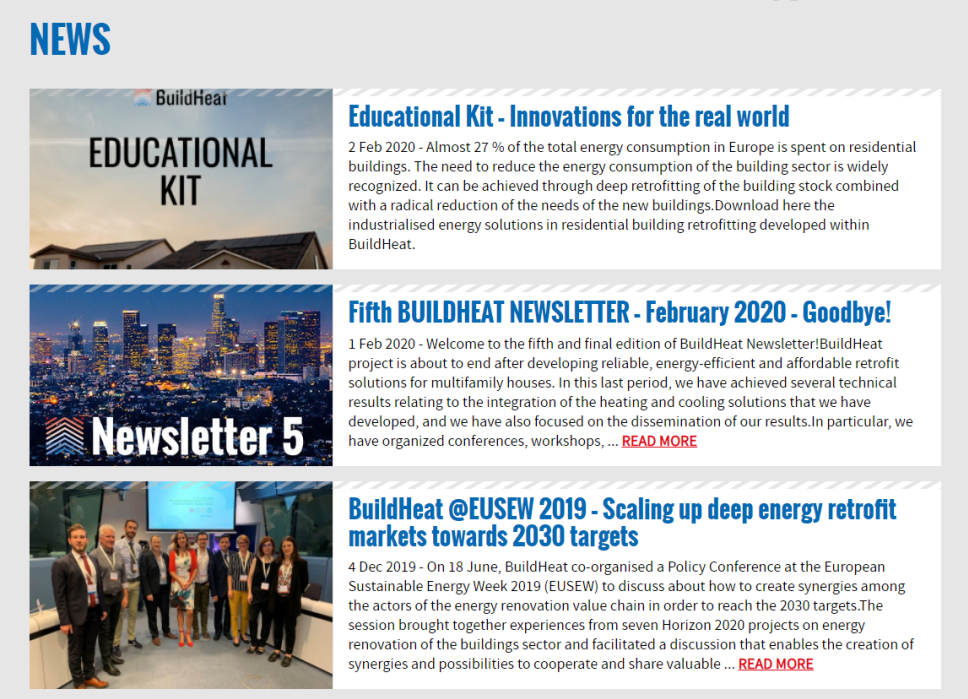
The aftermath arising from these ideas is that the project news and events are not introduced in the menus of the RPWs in homogeneous ways. Sometimes this content is restricted to the single option of *News* or to a section enclosing everything devoted to news and events. Sometimes it is split into two or more different sections that intend to have clearly delimited communicative purposes. Within the EUROPROwebs Corpus we can encounter labels such as *News & Events, News, Events, Blog, Newsletter.* This optionality can be perceived in the snapshots included in Example 4.9, where four website menus are displayed to compare how research groups dissimilarly distribute the information related to news and events.





EXAMPLE 4.9 – IRP29, IRP27, IRP14 and IRP05 – *RPW menus*

The main webpage of the *News & Events* section houses the news entries that are published through time and shows them in reverse chronological order, so that the most recent ones appear at the top of the webpage. This technical affordance is shared by other digital settings like blogs once again and helps place the emphasis on newsworthiness and immediacy. Users may be more interested in finding out about the latest activities concerning the project to understand better which point the research is at and what specific aims the project is trying to achieve at that moment. Example 4.10 provides an overview of the main page of a *News & Events*, where we can see a reversed list of news entries as well as the newsbites indicating readers to 'Read more' and offering little pieces of the texts to be accessed.



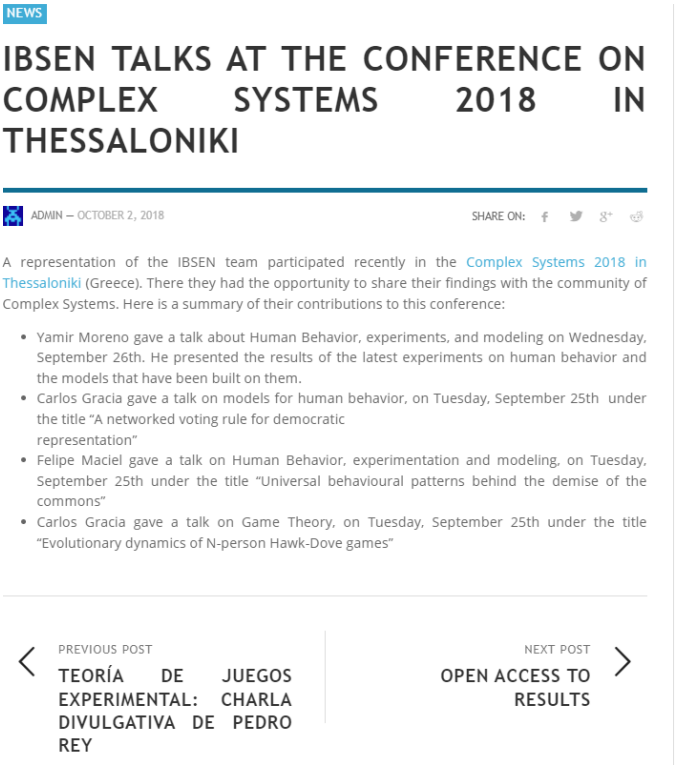
EXAMPLE 4.10 – IRP02 – *News & Events*

As an alternative to the format chosen in the previous case (a list), Example 4.11 presents the news and events of the project through a grid configuration and offers users more multimodal interactive possibilities in their navigation. This is reflected in the buttons at the top right-hand side where the available languages of the posts are made clear (an aspect which is also underlined

in each of the posts), as well as in the small menu preceding the grid where users can opt for only reading the news or the events if they want to.

EXAMPLE 4.11 – IRP15 – *News & Events*

Once users have landed on the main webpage of the *News & Events* section, they may discover the inner structure of the section, as it contains a lot of embedded pages within the main one. These have the generic format of posts, as in other digital settings such as digital encyclopaedias like Wikipedia and thematic blogs, which refer to one specific fact, activity or meeting that the project finds worthy to comment on. Each post contains a title, the main text, the potential addition of multimodal elements, and the possible option to publish comments and engage in interaction with the research consortium. Webpages in the shape of posts within the *News & Events* section tend to be verbally-based, because their focus is on the details of an activity and on how that was beneficial and useful for the project. In other words, the conveyance of the project news by research groups entails descriptions of the investigation interspersed with narrations of productive actions and events that the project participated at in order to implement their research or communicate their findings. The use of typography serves to further highlight relevant information. Bold font and italics are employed to make the headlines of news entries more noticeable and, together with bullet points, also purport to enhance the main gist of the news article, guiding the users through the whole text offered. Multimodal elements that support those narrations may comprise images and videos. An interactive route is sometimes activated at the end of the post for users to have the opportunity of directly accessing the previous or the next posts. Some of these aspects are epitomised in Example 4.12:


NEWS

IBSEN TALKS AT THE CONFERENCE ON COMPLEX SYSTEMS 2018 IN THESSALONIKI

ADMIN — OCTOBER 2, 2018 SHARE ON:

A representation of the IBSEN team participated recently in the Complex Systems 2018 in Thessaloniki (Greece). There they had the opportunity to share their findings with the community of Complex Systems. Here is a summary of their contributions to this conference:

- Yamir Moreno gave a talk about Human Behavior, experiments, and modeling on Wednesday, September 26th. He presented the results of the latest experiments on human behavior and the models that have been built on them.
- Carlos Gracia gave a talk on models for human behavior, on Tuesday, September 25th under the title "A networked voting rule for democratic representation"
- Felipe Maciel gave a talk on Human Behavior, experimentation and modeling, on Tuesday, September 25th under the title "Universal behavioural patterns behind the demise of the commons"
- Carlos Gracia gave a talk on Game Theory, on Tuesday, September 25th under the title "Evolutionary dynamics of N-person Hawk-Dove games"

PREVIOUS POST
TEORÍA DE JUEGOS EXPERIMENTAL: CHARLA DIVULGATIVA DE PEDRO REY

NEXT POST
OPEN ACCESS TO RESULTS

EXAMPLE 4.12 – IRP11 – *News & Events*

To finish the analytical exploration of international RPWs, other web sections should be discussed, which are not consistently structured and exploited, but which may play a meaningful role to complement the dissemination of project information and to enhance the visibility of some research groups.

4.1.5. Other web sections within research project websites

The unprecedented spectrum of affordances that can be exploited in websites opens up endless possibilities for users to arrange and emphasise information in personalised and malleable ways. This brings about a potentially tremendous variability in how websites in general and research project websites in particular are organised in terms of both their design and their content. In the previous subsections, the recurrence of some characteristic menu sections already visible and accessible in the homepage of RPWs has been explored (i.e. separate webpages embedded in the structure of the research project website). These include the *About* section to present the projects and their main characteristics and plans, the *Partners* section to unveil the members of such projects and recognise their role within the research undertaken, and the *News & Events* section to provide updated information on the steps and activities that are relevant and interesting for the development of the project (e.g. conferences, meetings, pilots, publications). Yet, the variability in the presentation of the project information, consortium composition and knowledge production –conditioned by other possible variables such as the disciplinary field of the project, the expertise

of the researchers and the budget allocated for the design of the project website– triggers the appearance of other webpages to complement the ones discussed so far in this chapter. Some of the salient ones, which were situated in the 'optional/occassional' position in the cline introduced in Subsection 3.1.3, comprise the *Work Packages* section, the *Output* section and the *Contact* section.

The *Work Packages* section

Work Packages (WPs) are also frequently displayed in the menu sections of RPWs and are inherent to the process of a research project receiving funding for its development, unlike other web sections that may be extrapolated to other contexts (e.g. *About*, *News & Events*). Work packages should be regarded as both the backbone and building blocks of an international project, from which the proposal prepared is eventually realised. WPs can be seen as shelves of a closet, where each of them needs to be filled with a coherent and appropriate set of clothes and only when they are all full is the closet completely organised. As the enterprise of IRPs is a long-term, really ambitious one, it is essential to share tasks and assign specific responsibilities and duties to the project members. This individualisation of the work is necessary to properly manage the evolution of the projects, and is unified in later stages through the coordination of the research members and the interconnection and interdependence of some work packages with others.

WPs can be structured in a sequential or temporal way, where some partners need to successfully deal with some of them, so that other partners at other institutions and countries may take it from that point and advance in the investigation. Another possibility is that WPs are carried out simultaneously, insofar as different partners may work at the same time in different parts of the project that jointly contribute to a common goal, or as part of each other's goal. In any case, the distribution of the work is necessary to be able to tackle the projects in the time estimated and reinforces the expertise and knowledge of each of the partners, who have been specifically involved in the project because of their suitability and reputation in those research areas and tasks.

Accordingly, the *Work Packages* section within RPWs aim at unveiling the structuring and organisation of the large-scale research into smaller steps and stages to pinpoint advances in the implementation of the investigation. In these webpages, verbal descriptions are outlined regarding the well-delimited areas of action that the project needs to tackle and the connections to the partners in charge of coordinating those processes. Depending on the objectives pursued by the project and the applications to be transferred to society, this web section may be labelled in ways other than *Work Packages*. Choices found in the EUROPROwebs Corpus to refer to the same content also comprise *Demos, Pilots, Model* and *Actions.* Example 4.13 illustrates this last case in the website from IRP21, where it can be seen how a list is started and emphasised in bold to name the different WPs agreed by the project consortium and describe them as users scroll down.

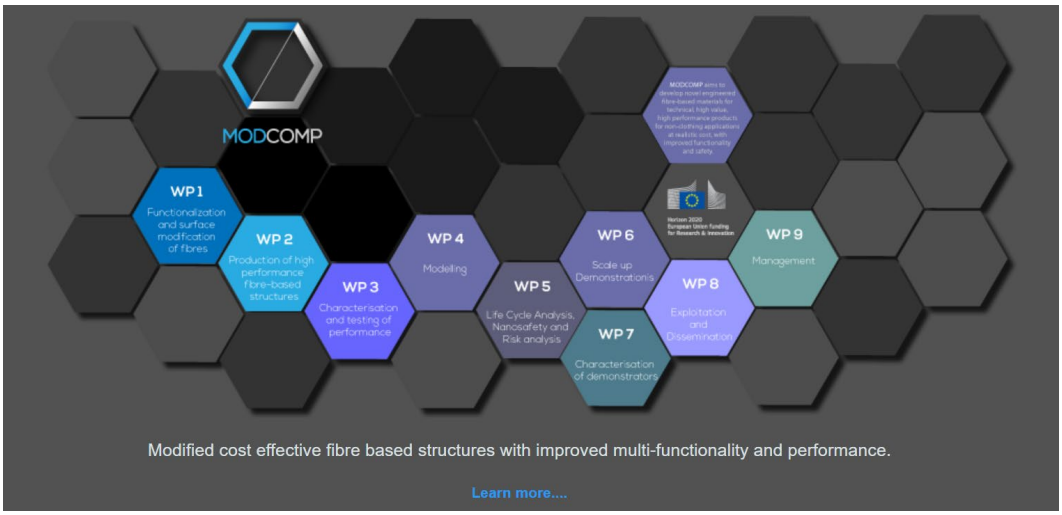
EXAMPLE 4.13 – IRP21 – *Work Packages*

The outcome is more often than not that *Work Packages* are web section containing very technical information which rather addresses expert readers and does not entail a clear dissemination function if compared to other web sections such as *Blogs* and *News & Events* (Lorés 2020). Yet, attempts are made to help process the very specialised data circulated in these sections, especially by inserting visual materials that allow users to consume information in a more organised and appealing manner. Thus, from a multimodal perspective, graphs, tables and figures stand out in *Work Packages* sections as technical resources which offer users choices of approaching more easily the disciplinary and scientific expert content in a condensed and pictorial way. The understanding of the individual WPs can in turn contribute to a more holistic understanding of the purposes and directions of the whole project.

Example 4.13 above displays a visual user-generated figure to explicate the processes of a microwave reactor. The use of arrows, zoomed in areas and captions point out at research groups' intention to unpack a difficult topic for non-expert audiences avoiding tedious, convoluted verbal explanations. Example 4.14 below provides a different instance of composing the *Work Packages* section. The focus being on the demos undertaken during the project development, it can be clearly seen how the page is visually divided into three main areas: 1) a map, which is inserted to disclose the location of a WP; 2) a figure under constant update, visually displaying the progress in meeting one of the project aims; and 3) a partner logo, clarifying the project partner responsible for the work package.

EXAMPLE 4.14 – IRP01 – *Work Packages*

In connection with this visual representation of specialised knowledge, it is also interesting to explore how WPs are encapsulated within the architecture of the *Homepages* of RPWs, apart from the menu label indicated on top of the website header. Work packages are also sometimes captured in some of the clusters making up the homepage, providing users with explicit temporal and logical relationships among the WPs by visually organising the stages they imply for the progress of the project. The most typical configuration can be found in Example 4.15, in which we can observe a grid in the shape of a hive where the work packages have been placed, together with the project logo and the acknowledgement to the Horizon2020 programme as the funding institution. From this starting point where the project division of work can be checked, users can click, access and navigate through the specific webpages devoted to the description and discussion of each of the WPs.



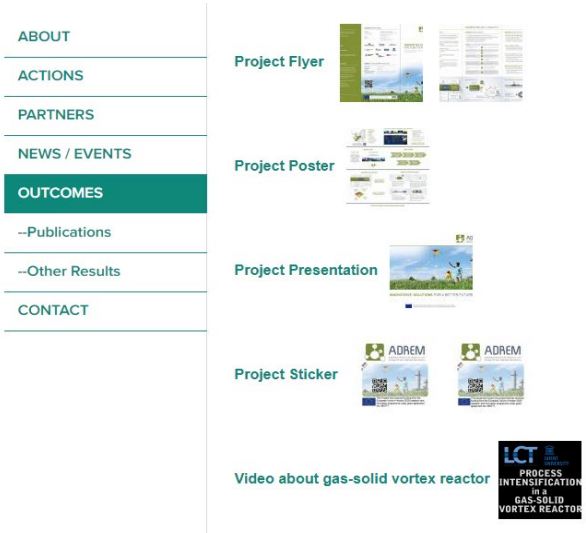
EXAMPLE 4.15 – IRP13 – *Homepage*

WPs are always part of the plans designed by international research groups to realise their projects. Nevertheless, they are not always showcased in their websites because of the highly expert content they entail. When they do appear in the website structure, users can have access to the organisational units of the project, each uncovering a set of actions, steps, methodological decisions and practical solutions necessary to be considered and implemented in order to tackle the proposed project goals.

The *Output* section

One of the tangible outcomes in scholarly and research contexts has traditionally been the publication of peer-reviewed research articles and books and the participation at conferences. This is described by Puschmann (2015) as 'primary output', in that it constitutes conventional certified and legitimised knowledge. The scope of 'publications' resulting from the collaboration in research projects, though, needs to be reconsidered because of the special nature of the international projects and, even more importantly, in light of the prevalence of digital texts and genres to communicate information at present. Lorés (2021: 50) argues that the digitalisation of scholarly research boosts the visibility of academics and scientists and that "the use of digital platforms has had an enormous impact on the practices they are adopting to give light to their research output". This is the motif of the *Output* sections included in RPWs, where the number and type of outlets produced by research groups is rendered visible and accessible to users. Within the EUROPROwebs Corpus, the introduction of this web section in the menu is very much highlighted under various denominations, like *Outputs, Outreach, Communications, Publications, Outcomes, Materials* or *Deliverables*.

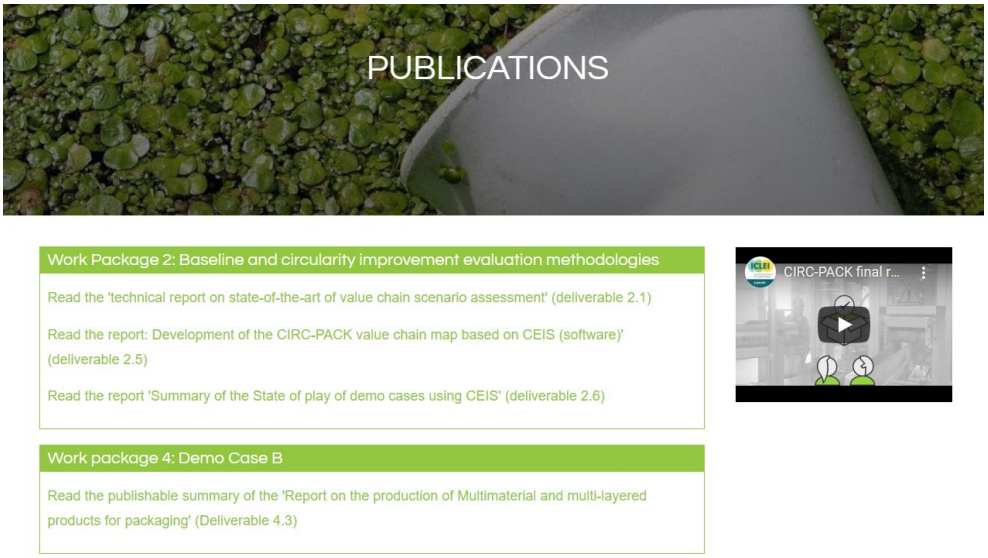
Whereas research articles and conventional publications continue to be an essential component, research groups are endorsing a plethora of novel and sophisticated practices in the creation of output, bearing in mind diversified publics beyond the expert reader. These newly recognised forms of output include scientific reports, visual presentations, digital leaflets and flyers, interactive posters, guidelines of good practice, and videos for specialised and lay users, just to name a few. Example 4.16 represents the *Output* section of a website, where precisely varied forms of output beyond the 'primary' scope have been uploaded to disseminate information about the project and appeal users to consume them.



EXAMPLE 4.16 – IRP21 – *Output*

The configuration of the *Output* section tends to be homogeneous and favours the format of lists where publications and materials appear one after another. Little information about their content and usability is typically offered and hypertextuality prevails to lead users to web-hosted documents and external sources of information. Sometimes hints are verbally included to catch

users' attention, but in general the *Output* section rather functions as a repository where to allocate and organise the ongoing production of the project. Reference is also frequently made to the association between the output and the objectives and desired results of the project that were drafted in the documents submitted to request for public expenditure. All of these aspects can be observed in Example 4.17, where there is an explicit relationship between the output and the corresponding WPs that we have just commented on above, which serves to structure the webpage. The list of publications is preceded by the imperatives 'Read' to drive users' navigation; internal hyperlinks have been inserted and highlighted in green to offer access to the actual texts; and references are included at the end of each line to indicate to which deliverable in the project proposal the output contributes to.



EXAMPLE 4.17 – IRP03 – *Output*

The topics, objectives and applications of IRPs and the practices adopted by research groups are anew key elements in the range of outputs to be included in this section, which may supplement what researchers understand as conventional scholarly production. Yet, there may be an overall (not so fast) tendency towards hybrid and emergent outputs incorporating digital affordances. Reluctance by scholars to a quicker uptake may be caused by the time-consuming efforts and processes involved in traditional publication practices and to the peripheral role that still seems to underlie in some cases the production of digital outlets with apparently little payoff within professional scenarios. The dissemination of new information and scientific discoveries based on the outputs produced around the project is not carried out through explanatory texts to a large extent, but research groups prefer just to put forward users' possibility for navigation and consumption of those outputs in case they are interested. Such dynamics may lead to think in most cases of an audience that encompasses specialised readers as the main target of these sections.

The *Output* section normally grows as the project moves forward and even more once the duration of the project is completed, as results are normally obtained at the final stages of the investigation. However, when asked about which sections were more frequently updated within their websites, the majority of informants interestingly reported that the *Output* section was one of them:

> Publicaciones y resultados, participaciones en conferencias, sobre todo, que es lo que realmente tiene actualización en el día a día.
>
> [Publications and results, participations in conferences, above all, which is what may be really updated on a daily basis.]
>
> (Informant 3 – IRP21)

> Las secciones que se actualizan con más frecuencia son las de *News y Events* y la de *Outcomes* porque ahí se cuelgan tanto materiales de difusión como documentación, entregables principalmente del proyecto. Y luego ya en segundo lugar sería el archivo de *Newsletter* porque al final las *newsletter* son algo periódico, pues cada seis meses del proyecto o así; cuando hay una se cuelga, pero no es la que tiene más actualización.
>
> [The sections that are most frequently updated are *News & Events* and *Outcomes,* since it is there that dissemination materials, documentation and deliverables of the project are mainly uploaded. And then in a second place the archive of the *Newsletter*, because in the end newsletters are something periodical, every six months or so; when there is a new one it is uploaded, but it is not the most updated section.]
>
> (Informant 8 – IRP10)

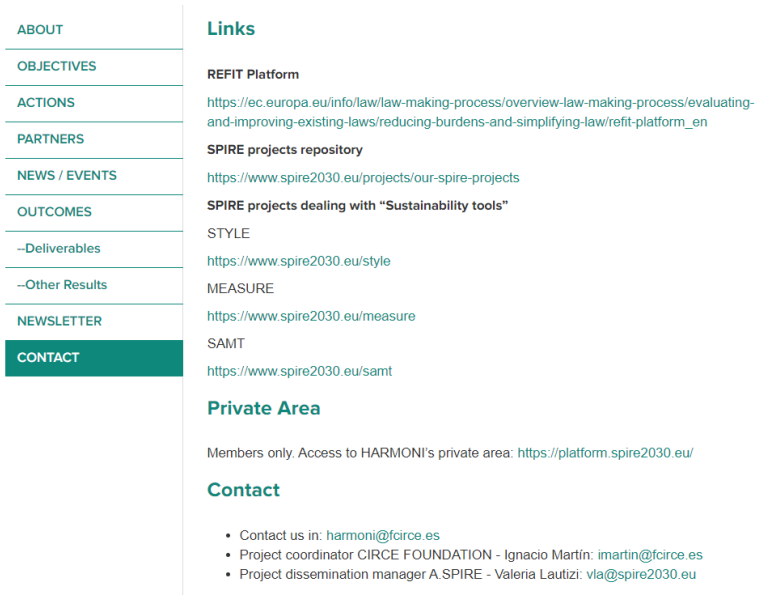
Such statements hint at the idea of this section as a repository in continuous expansion, where preliminary findings are also published and promotional materials are launched to increase the positive self-representation of the project.

The *Contact* section

A final section that tends to be featured in research project websites is the *Contact* section, typically placed at the right end of horizontal website menus and at the bottom of vertical website menus (see Example 4.18). The aim of this section is to offer contact details to users interested in participating and discovering more about the project, as a kind of straightforward bridge between researchers and the audience. Webpages containing contact information are generally short in length and place all the relevant information very clearly to guide users' reading. Since the communicative purpose of this section is readily understood by users before entering the web section, it is not common that they present extensive verbal explanations, but rather a telegraphic, direct style. As for their layout and visual configuration, the *Contact* sections may be dissimilar in the manner they show the different meaning-making devices. This is epitomised below: whereas a linear, sequential structure based on verbal (hyper)texts and organised by prominent headings is favoured in Example 4.18, a much more visual, compact and integrated composition has been designed in Example 4.19, including visual elements and interactive sites for users' action. What seems clear is that the *Contact* section is characterised by a high level of hypertextuality, insofar as links to responsible institutions, other projects, partners' own webpages and e-mail addresses are inserted to ease users' actions.

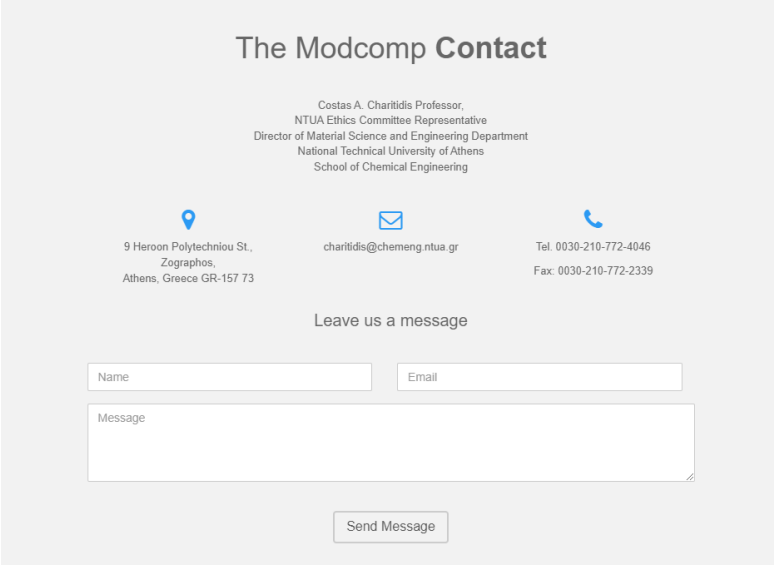
Example 4.18 displays precisely a vast number of links, as well as a place within the *Contact* section devoted to the 'Private Area' that is only accessible by members of the consortium. Another recurrent trait is found in the snapshot below, in which the important roles

of some partners within the project, and the individual names of researchers in charge of the research, are also highlighted.



EXAMPLE 4.18 – IRP10 – *Contact*

Example 4.19 exhibits a different design of the *Contact* section, this time featuring a more diverse selection of 'sites for action' (Adami 2015). After placing the details at the centre of the text, three columns are displayed and reinforced by visual icons to highlight the physical location of the project, the main e-mail address for users to contact the project members and the telephone numbers they can use to reach the research group, respectively. A further differentiating element across these sections within the EUROPROwebs Corpus lies in the insertion of specific boxes to allow users to directly contact the research project. This decision conveys to a certain extent the research group's interest in users' getting involved in the project and being able to provide them with feedback. In the example below, this is evidenced by the command 'Leave us a message'.



EXAMPLE 4.19 – IRP13 – *Contact*

In this section, accounts on the sections making up international research project websites have been provided (e.g. the *About* section, the *Partners* section, the *News & Events* section, the *Work Packages* section). Patterns in terms of both content and structure have been discussed, triggering implications about how information is generally disseminated, how the project is conveyed and how the readership tends to be reached. The role that affordances may play in web-mediated environments has also been pondered, as responding to unique communicative purposes that emphasise the collective identity of the project and the accountability of their work. This has been supported with data from informants to acknowledge their attitudes and views in relation to the theoretical explanations.

As follows, I come to conceptualise the second object of study of this PhD thesis, which entails the digital setting of social media platforms, particularly Twitter. I delve into the specificities that they introduce for scientific and professional contexts such as the one of international research groups and the communication of research projects.

4.2. Social media in scientific communication

Social media are continuously employed in many spheres of our daily routines affecting the way we spend our leisure time, buy commodities or consume the mass media. This has led to the flourishment of pieces of research into the discourses enacted in different social media over the last decade, paying attention from various analytical perspectives to the affordances and the communicative implications triggered by different specific practices such as blogs, microblogs, social networking sites and broadcasting platforms (e.g. Myers 2010; Papacharissi 2011; Yus 2011; Zappavigna 2012; Barton and Lee 2013; Page et al. 2014; Seargeant and Tagg 2014; Dayter 2016; Benson 2017). Some initial questions then are tackled in Subsection 4.2.1 as a prior step to comprehend how social media are managed in research environments. How can social media be defined? What are their main structural characteristics and their main affordances? In what ways are they enabling online communication between users and audiences? This previous stage will serve to contextualise the specific use made of Twitter for Research Dissemination Purposes (TRDP) introduced in Subsection 4.2.2.

The notion of social media inherently refers to a broad category where the online settings that enable the creation, maintenance and accomplishment of social interaction are included. More specifically, social media comprise "(the totality of) digitally mediated and Internet-based platforms which are interactively used (by individual and collective participants) to exchange, share and edit self- and other-generated textual and audio-visual messages" (Hoffmann 2017: 4). Other several competing concepts were also brought to the fore as options to describe the set of digital environments where communication was predominantly interactive like 'convergence culture' (Jenkins 2006), 'participatory media' (Rheingold 2008) and 'Web 2.0' (O'Reilly 2010). In any case, what we understand today by social media is rather that their essence and their focus deal with "facilitating of participation and interaction, with the result that the 'content' of what is developed and shared on the internet is as much a product of participation as it is of traditional creative and publishing/broadcast processes" (Seargeant and Tagg 2014: 4). Thus, social media

constitute new platforms intended to promote "socialization, public debate, and information exchange" (Quan Haase and Sloan 2017: 2). In that regard, "people flock to them to socialize […], to share information with interested others, and to see and be seen" (boyd 2011: 39).

To grasp how social media are launched and employed by users, it is determinant to acknowledge the crucial existence of an 'audience'. In words of Mandiberg (2012: 1), "these sites are pointless without audience participation: from the audience's perspective in order to experience the site you have to become a media producer, and from the organisation's perspective, without audience participation, their sites will fail". When communicating online, the roles traditionally assigned to authors/writers and readers, as well as to speakers and hearers, may lose their boundaries. Users constantly shift between these two roles, having the simultaneous possibility of consuming and publishing, reading and commenting, watching and reacting. This is so because "the Internet embodies technosocial affordances that provide the means for a many-to-many, collaborative and communal production process, with the convergence between user and producer" (Jenkins 2006). The juncture of compositional and interpersonal assets that permit a bidirectional communication that fosters the participatory nature of social media and turns media users also into media producers matches the definition of 'produsage' proposed by Bruns (2007; 2008). This results in users having the chance to be productive and creative through interactive communicative exchanges among them, as well as through aesthetic and functional elaborations of the software and platform interfaces (Lomborg 2014: 2).

A further puzzling issue arising from this convergence of roles in online interactions, and especially in social media platforms, lies in the potential difficulties to identify with whom users actually interact at the other side of the screen. Such blurriness in the notion of audience derives from both the convoluted delimitation of the users one desires to target specifically, and the recognition of the actual audiences that are really addressed, whether desired or not. These complicated boundaries traverse users' public and private spheres and any physical circumscription that can be imagined for online interactions. Relying on boyd (2011), three specific dynamics are particularly pertinent to the concept of 'audience' in social media:

> 1) audiences have the potential to remain visible or invisible, in as much as they can be co-present or absent, when users contribute online;
>
> 2) the fuzziness of spatial, temporal and social boundaries leads to collapsed contexts where the identification of separate social contexts is very difficult to maintain;
>
> 3) the binary public/private becomes meaningless, as users have no control over context, and so what we understand by 'public' and 'private' is scaled in new, intermingled ways.

As discussed above in Section 2.1 about Digital Discourse, the difference between *intended public* and *actual public* becomes more blurred in the context of social networking sites. One thing is the list of users one chooses to connect with and follow on a site (friends or followers). A different thing is the actual amount and range of users who will passively go through the content published ('lurkers') or who will interact with it even when this was not intended ('outliers'). This threatens the sense of community that users may (not) experience, and that it is not guaranteed by the sole presence of a virtual environment (Gruzd, Wellman and Takhteyev

2011). Users, thus, expect some kind of participants to access their profiles and consume the information they post, and accordingly formulate their contributions bearing them in mind. Yet, the fact that participants other than the intended ones can also interact with the content published and with themselves push users to make (un)conscious adjustments in their self-projection and online performance to comply with the collectively expected conventions of social media settings. The complexities of such networked audiences is illustrated in Figure 4.3:

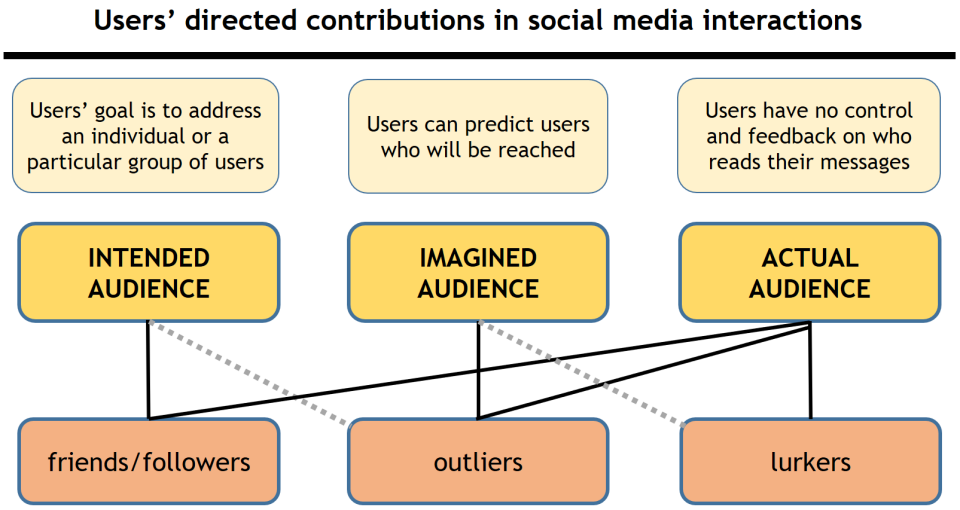


FIGURE 4.3. Networked audiences and users' potential interactions in social media communication.

The outcome of such a mix of audiences is the predominance of *networked publics* in social media, enhanced by "(1) the space constructed through networked technologies and (2) the imagined collective that emerges as a result of the intersection of people, technology, and practice" (boyd 2011: 39). Consequently, in constructing and directing their messages, users can leverage several semiotic modes that operate in social media contexts (e.g. verbal, visual, auditory) and the affordances that particularly work for every social networking site. Users ponder in this manner their own discursive choices, convey another facet of their digital identity and provoke certain reactions on their audiences. In all, social media

> offer users an area for self-expression, identity shaping and display of interactions that produce effects on the user's personal and social identities. […] users *position* themselves as unique individuals and upload content on their profiles with expected audiences and interpretations, a kind of identity performance; and thanks to the *affordances* of new media, "addressee users" also co-construct, co-produce text in a joint generation of content.
>
> (Yus 2019: 16)

A set of affordances, then, exists at users' disposal in social media for them to set up a potential interaction (and the diversification of possible interactions) with other users, and to present themselves publicly. boyd (2011: 43–46) puts forward a list of affordances and features which have been rearranged in Table 4.2 to present the characteristics at the core structure of social media, as well as the characteristics that are particular to the networking options enabled by them. Hence, four intertwined and co-dependent technical properties mainly characterise

social network sites and make them unique and distinct from other genres and media allocated online: persistence, replicability, scalability and searchability. Then, another four affordances are enumerated as significant to the ways users participate in social media, present themselves to other users and build interaction with them.

Structural Affordances of Networked Publics	**Persistence**	"Online expressions are automatically recorded and archived."
	Replicability	"Content made out of bits can be duplicated."
	Scalability	"The potential visibility of content in networked publics is great."
	Searchability	"Content in networked publics can be accessed through search."
Features of Social Network Sites	**Profiles**	"Not unique to social network sites, but central to them. Profiles both represent the individual and serve as the locus of interaction. […] participants actively and consciously craft their profiles to be seen by others."
	Friend lists	"Participants articulate who they wish to connect with and confirm ties to those who wish to connect with them. […] The majority of participants simply include all who they consider a part of their social world."
	Public commenting tools	"Comments are visible to anyone who has access to that person's profile and participants use this space to interact with individuals and cohorts. […] Comments are not simply a dialogue between two interlocutors, but a performance of social connection before a broader audience."
	Stream-based updates	"All of these [previous] features allow individuals to contribute content, which is then broadcast to Friends primarily via a stream of updates, […] re-displayed on a person's profile and available for comments. […] the running stream of content gives participants a general sense of those around them. In doing so, participants get the sense of the public constructed by those with whom they connect."

TABLE 4.2. boyd's (2011) conceptualisation of affordances and implications in SNSs.

These affordances may contrast with affordances of websites. In social media, it is likely that users can appropriate content that is published there in a direct way and make it theirs, as would be the case of retweeting. Users can also include their emotional reaction to the content published in an SNS, as in Facebook, when responding to posts and publications of your friends. There are also synchronous chat options, which are fostered in social media like Instagram, Facebook or Twitter to establish one-to-one and one-to-many interactions between authors and

their targeted readers. Contacts among users are also facilitated in social media and can be taken outside them –for example, users can directly reach and be reached by interested users through their individualised profiles in LinkedIn. Therefore, what is particular of social media, as opposed to classic websites, is that the former "encourage Internet users to post, comment, evaluate, link and contribute self-selected (audio-visual) content [and] are deliberately designed to encourage and enable non-expert users to create, share and disseminate digital content" (Hoffmann 2017: 7).

The previous considerations are common to a plethora of different contexts in social media environments (i.e. concerning personal and more restricted accounts; mass media and journalistic discourses; self-branding and corporate communication; interactions involving influencers and celebrities). Yet, each context may present its own specificities and practicalities as for the usage and maximisation of social media and the salient practices endorsed when users contribute to them for a number of goals. Such is the case of Twitter, which will be the object of study for this PhD thesis as representative of the landscape of social media used for scholarly and scientific ends. In the following section, the principal features of Twitter are deployed, and then discussed in relation to their functionality and exploitation for the communication of research and science.

4.2.1. Twitter: Characteristics and affordances

Twitter was originally founded in July 2006 and had a tremendous impact on the practices of digital users from 2009 onwards. It enables users to communicate by publishing messages with a character limit, which was in its inception of up to 140 characters, but was extended to 280 characters in November 2017. As such, it is considered an SNS created to function as a platform based on microblogging, understood as "the practice of publishing short bursts of content" (Squires 2016: 239). A general definition of the purpose and functioning of Twitter can be read in its Help Center website:

> Twitter is a service for friends, family, and coworkers to communicate and stay connected through the exchange of quick, frequent messages. People post Tweets, which may contain photos, videos, links, and text. These messages are posted to your profile, sent to your followers, and are searchable on Twitter search.

Users in Twitter can interact in nearly real time, publishing new content as authors and responding and reacting to the content just published as readers. The publication and circulation of content on Twitter is "persistent-by-default ephemeral-when-necessary" (boyd 2011: 47), as tweets can become trending topics and keep users' interest or go unnoticed in the constant refreshing of feeds. In general, immediate exchanges among users on both private and public issues typically involve "debate, humour, updates, news, products, gossip, and more besides" (Hardaker and McGlashan 2016: 81). Nevertheless, Twitter as one example of the existing microblogging practices offers users a space for asymmetrical communication, by which users can follow other users, who do not have to necessarily follow them back (Gruzd, Wellman and Takhteyev 2011). This implies that "reciprocation of a follower is not obligatory, nor is non-reciprocation

interpreted as rejection" (Zappavigna 2012: 31), helping avoid "the "walled garden" effect of relatively enclosed social networking sites such as Facebook" (Gilpin 2011: 234).

Consequently, Twitter is a medium that unfolds a network to create "connections and collective content that are felt to exist but are not necessarily individually articulable: it constitutes a form of distributed knowledge and sociality" (Squires 2016: 239-240). At this juncture, users post information of their interest and like and express their personal evaluations to a large body of 'viewers' and use the established and expected conventions of Twitter to exploit the potential of their messages. These dynamics are in line with what Zappavigna (2011, 2012, 2014) has coined as 'ambient affiliation':

> In this way users can choose to mean in an explicitly searchable manner by integrating metadata into their talk through typographic conventions, such as the hashtag, that increase the 'loudness' of their discourse by increasing the likelihood that their words will be found. This, in turn, increases the probability that a user's production of texts over time will be actively 'followed' by others.
>
> (Zappavigna 2011: 800)

As was claimed for the case of websites, audiences in Twitter, apart from the tangible reactions of users, are *imagined*. In the asymmetrical relations established in this social medium, the average poster does not know who or how many people may read their tweets. Thus, the potential of the communicative exchange is tremendous, but cannot be fully measured. The fact that the Twitter audience is made up by interested users providing feedback as much as lurkers who do not actively participate steers users posting content towards maintaining a demanding self-presentation. In Gillen and Merchant' (2013: 52) words, "it must be assumed by the knowledgeable user, that the response is actually directed to the Twittersphere in general (in the sense that tweets are public), but more specifically to one's own followers. […] in tweeting one must imagine a wider audience albeit an audience who may or may not have paid attention to one's previous tweet".

Twitter presents a particular range of affordances in the way interaction is enabled and communication produced (as the rest of digital media and genres at users' disposal online do). While some affordances and features are common to various SNSs (e.g. hyperlinking, replying, inserting emojis, bookmarking), others may deserve careful attention due to the specific function they fulfil in Twitter-mediated communication, such as mentioning, following, hashtagging, retweeting or liking. These affordances taken together provide users with unique post-update and categorisation resources relevant to the interactivity potential of Twitter (Sundstrom and Levenhus 2017); with participatory options that "manage to bridge the old productive divide between 'active' authors and 'passive' readers, with the self-proclaimed aim to neatly interlace the processes of writing and reading (not only temporally but also conceptually)" (Hoffmann 2017: 7). Next, such affordances are briefly explained as part of the organisational engagement provided by the Twitter infrastructure together with the implications they may bring in online interactions.

Mentions

The affordance of mentioning (@username) serves to achieve "several things at once: it establishes addressivity for a tweet, it triggers a notification to the mentioned user that has been addressed [and] it creates a link to that user's profile" (Squires 2016: 242). It is fundamental in the usage made of Twitter, where no explicit bidirectional communicative exchange is required, a way of targeting specific users and making them aware of one's published content. Thus, it clearly entails a resource to forge relationships between *writers* and *readers*, and has been categorised as an innovative metadiscursive instantiation of evidentials (Mur-Dueñas and Pascual 2023). Mentions also serve to attract users and increase one's list of followers and overall "help create coherence in the Twitter environment" (Honeycutt and Herring 2009: 9).

Hashtags

Hashtags have been one of the features sparking a lot of interest within academia and from different disciplines (e.g. Zappavigna 2011, 2012; Scott 2015; Evans 2016). On the one hand, hashtags have been observed to entail a resource of pooling tweets around the categories that are hyperlinked, which become therefore searchable by users (Gillen and Merchant 2013). On the other, hashtags have also been provided with a discourse function related primarily to affiliation and findability of content (Zappavigna 2011). These two perspectives, content- and user-oriented respectively, make it evident that hashtags contribute to the dynamicity of the Twitter environment and to the sense of community among users. At the conjunction of these trends, Page (2012: 184) reflects on their efficiency to construct an identity and gain increased attention in this social medium:

> Within the linguistic marketplace of Twitter, hashtags are a crucial currency which enables visibility and projects potential interaction with other members of the site. Hashtags can be used to make a term searchable and therefore visible to others who are interested in tweets written about the same topic. When a hashtag is used with sufficient frequency, it may be listed in the 'trending topics' sidebar of the Twitter site, hence promoting a topic or term (and hence the tweets and their authors) to an audience which extends far beyond the follower list of the person who used the hashtag.

Replying, liking, retweeting

Twitter also allows users to explicitly demonstrate their attitude and experience to the published content through public reaction interactions. "A record of them is appended to the original post, usually via a counter of some sort underneath the main message" (Scott 2022: 54). These can be mainly realised by replying, liking and retweeting, and all the information derived by users' interactivity with respect to these affordances is notified to the original authors and stored within the tweet, so that others can check it out.

Through replies to other tweets, users intentionally insert a verbal response and initiate a bidirectional 'conversation'. As comments that can also be materialised in other social media environments, replies are understood as "not simply a dialogue between two interlocutors, but a performance of social connection before a broader audience" (boyd 2011: 45). However, "there

is no 'conversational obligation' to respond immediately or even respond at all, posts may but may not be preceded or followed by something related" (Sifianou and Bella 2019: 346). Through likes, visually represented through a heart-shape button that is clicked on, users express an instant emotional reaction to content posted by others.

Through retweets, users insert, literally, in their own feed content posted by others, spreading out information more strongly than by liking it, but not engaging in conversational interactions. It is worth expanding the notion of retweets, as an emblematic affordance of Twitter (as opposed to other SNSs), which may encompass multiple motivations for users. These comprise, among others, circulating information more widely, acknowledging friendship publicly, entertaining a specific audience, demonstrating public agreement and fostering self-promotion (boyd, Golder and Lotan 2010). Hence, retweets are considered as resources to foster a dialogic loop (Linvill et al. 2012) which, together with replies, offer a contextual backdrop for the publication of new tweets (Gillen and Merchant 2013). In the end, they entail "the re-broadcasting of another user's tweet through one's own stream, fostering a sense of ambient connection among users" (Squires 2016: 243). Retweeting is then a useful asset for participants to get involved in conversations, recognise attribution and build rapport and, thus, "contributes to a conversational ecology in which conversations are composed of a public interplay of voices that give rise to an emotional sense of shared conversational context" (boyd, Golder and Lotan 2010: 1). Another possibility enabled by retweeting is quoting, by which a user's utterance in this case in the form of a tweet is explicitly transformed and recontextualised expressing (dis)alignment with the stance of the original author or stance towards the quoted content or the quoted speaker (Gruber 2017).

Drawing on Pascual and Mur-Dueñas (2022), the landscape of affordances that operate in Twitter and that are activated by users according to their particular use and goals is represented in Figure 4.4. A correlation has been somewhat established with the potential dialogic functions they may help fulfil, in order to understand why they are enacted. In this sense, two overriding functions seem to stand out, namely building a network of relationships and facilitating audience traffic to the user's profile.

Medium affordances particular to Twitter	Potential dialogic functions	
Live interaction, immediate publication	Closeness and proximity	Relationship building
Mentioning	Networking and rapport	
Retweeting and quoting	Alignment, endorsement of ideas	
Following users and lists	Impact and credibility	
Embedding multimedia content	Engagement and meaning-making	Facilitating audience traffic
Hyperlinking	Navigation and accessibility	
Hashtagging	Searchability and findability	

FIGURE 4.4. Affordances of Twitter as a social medium and the dialogic functions they fulfil (from Pascual and Mur-Dueñas 2022).

The multifarious affordances encapsulated in the table above do not correspond to solely one dialogic function. Their scope should be understood as ample, although there are tendencies in their use to accomplish certain communicative intents. Hence, live interaction and immediate

publication serve to make the relationship with Twitter users more approachable, mentioning offers opportunities for networking and rapport building, retweeting is associated to the endorsement of the author's original ideas, etc. Situated analysis of Twitter may uncover new associations, but in the end the technical affordances of this social medium allow users to profile their interaction and ensure a certain level of dialogicity with their *intended* audiences.

In the upcoming subsection, the focus is placed specifically upon the usage made of Twitter for information distribution and research dissemination, and insights are shared into how it is fruitful for research project communication.

4.2.2. Twitter for Research Dissemination Purposes (TRDP)

The transformation in our possibilities to communicate with others and fulfil our private intentions has brought along a growing concern in recent years about how social media operate in professional contexts. Special interest has been raised about the increasing role they play in scholarly dynamics, and how they also open new possibilities and challenges for researchers when they communicate online through these channels (e.g. Gilpin 2011; Mahrt, Weller and Peters 2014; Kuteeva 2016; Duffy and Pooley 2017; Petroni 2019; Pascual and Mur-Dueñas 2022; Mur-Dueñas and Pascual 2023). It is in this line that the analysis of Twitter made by research groups for the communication of their IRPs is presented in this PhD thesis. As asserted in the Editorial of their co-edited Special Issue on social media in academia, broadly speaking, social media like Twitter

> have the potential to bring about significant changes in academic practice and in scholars' working environments. They can help to make research projects and results accessible to a wider public, to organize collaboration among research groups, to connect experts in specific fields of expertise, to find or share relevant literature or to create inspiring learning environments.
>
> (Weller and Strohmaier 2014: 203)

As such, Twitter as a social networking site can be effectively used in academic and scientific contexts pursuing the publication and circulation and impact of new specialised knowledge. Interest from institutions in social media presence of themselves and their workers is raising, for this presence is a "key component of knowledge dissemination, institutional outreach, branding, and communication management" (Cabrera et al. 2017: 422). As other social media, Twitter is a fertile ground to develop both personal and professional digital identities that can help users accomplish recognition, reputation or popularity (Petroni 2019). Gilpin (2011: 246) advocates for the professional embeddedness of this social medium:

> Activity on Twitter can be seen as a means of increasing one's professional visibility, as well as driving traffic to one's presence in other online venues. Public interaction with others, including posts about offline professional events and social interaction with other practitioners, contributes to building an identity as an entrenched professional.

Twitter can be promoted to connect worldwide scientists participating as users and purports to reveal how science is really done (Myers 2013). When researchers post new content, an exceptional representation of their scientific work is offered, which serves to "provide an insight into day-to-day practices and problems and show what is going on "behind the scenes" in the research world" (Kuteeva 2016: 435). In so doing, Twitter is an illustrative example of how scientific knowledge is disseminated by repackaging information, that is to say, by recontextualising knowledge and making it more accessible to the specific audiences targeted. Additional typical scholarly functions performed via tweets include reporting news (Honeycutt and Herring 2009); forwarding URLs (Mahrt, Weller and Peters 2014); sharing information and media (Veletsianos 2012), measuring altmetrics (Weller and Puschman 2011); constructing a professional identity (Gilpin 2011), and recommending literature (Ebner and Schiefner 2008). Similarly, in her analysis of the Twitter discourse of celebrity practitioners and corporations, Page (2012: 182) contends something that may well apply to international research groups and the communication of their projects:

> [I]nteractions in social media contexts may enable self-promotion strategies that result in social or economic gain. The forms such self-promotion might take can vary considerably from one social media site to another. Nonetheless, visibility and attention have emerged as core properties necessary for accruing status and perceived influence.

The quote above could perfectly be extrapolated to more narrow academic and professional settings, like the one of IRPs, where researchers may search out a higher impact of their work and a more solid reputation and credibility than if no social media were used. Actually, the potential of Twitter within scholarly and scientific spheres is by now widely recognised. Even informal guidelines are available for researchers to be a part of this virtual community and profit from it:

Rule 1	Start somewhere, but show up
Rule 2	Discover opportunities in academia
Rule 3	Tweet stuff
Rule 4	Learn the rules
Rule 5	Take care of yourself
Rule 6	Build your own community
Rule 7	Interface with real life
Rule 8	Spread your message
Rule 9	Be a real person
Rule 10	Great power & great responsibility

TABLE 4.3. Ten simple rules for getting started on Twitter as a scientist (from Cheplygina et al. 2020).

Despite an already extensive body of research on the scholarly use of Twitter, as yet very little attention has been paid especifically to its role in the communication of global, international research endeavours, such as in the case of large-scale funded research projects. Most of the scholarly interest has been raised in relation to Twitter when employed for conferences, focusing on the live publication of tweets and interaction among users during the development of academic events (e.g. Letierce et al. 2010; Ross et al. 2011; Weller, Dröge and Puschmann 2011; Shiffman 2012; Wen, Lin and Trattner 2014; Mazarakis and Peters 2015; Lee et al. 2017; Luzón and Albero-Posac 2021). This individual use of Twitter has perhaps been one of the most popular arenas for academics to go online and embark on new communicative practices, and has been therefore long investigated. Yet, it is just one piece of the puzzle, which is timely constrained to specific situations and which may present limited options and patterns for other communities of users. Hence, this is by no means the only scenario where scholars and professionals are leveraging the functionalities of social media, and more research into further uses and goals of Twitter for academic endeavours should be thoroughly undertaken. In the end, "applied linguistics research on the use of Twitter in the research world is still in its infancy" (Kuteeva 2016: 435) and fully comprehensive studies are needed on the uptake of Twitter among scholars, that is, on how, why, or in what ways they make use of Twitter (Mahrt, Weller and Peters 2014).

In order to continue to explore the uses and functions of Twitter for scholarly and scientific enterprises, I suggest the notion of Twitter for Research Dissemination Purposes (TRDP) to describe the kaleidoscope of purposes, assets, functions and choices employed and exploited by researchers for their academic and professional benefit. This perspective has been to an extent explored in recent studies connecting pragmatic and metadiscursive analytical approaches to unveil characteristic verbal and non-verbal strategies and mechanisms in the overall discursive and linguistic usage of Twitter by IRPs (Pascual and Mur-Dueñas 2022; Mur-Dueñas and Pascual 2023).

Example 4.20 captures the upper part of the profile of an international research project in its Twitter account. Multimodally, it contains a background picture related to the topic of the research as well as the project logo. In addition, accountability to the funding programme is acknowledged, the aim of the investigation is stated and the RPW is offered to users:

EXAMPLE 4.20 – IRP09 – *Twitter*

Within the landscape of research project communication, Twitter should be considered as a satellite to the website, which is established as the mandatory channel of information (albeit not necessarily the principal or most fruitful one). In other words, RPWs are expected to be created and updated by external institutions and research groups themselves, whereas profiles in social media platforms like Twitter are considered as optional complements with which to amplify their reach and impact. Gilbert and Mulkay's (1984) widely-known account of scientists' selective repertoires in the ways they used to communicate is well-suited and applicable for the communicative practices promoted by researchers nowadays through digital settings. Out of the two interpretative repertoires they identified, the RPW belongs to researchers' 'empiricist repertoire', which pertains to the realm of formal discourse in the scientific domain, whereas accounts in SNSs are part of their '*contingent* repertoire', which appropriately depict social action and belief in more informal contexts.

Another useful comparison that can be reinterpreted for the present study draws on Yang's (2016, 2017) categorisation of 'host and appendant/attendant genres'. While a host genre holds "a major focus in academic discourse which always exists independently" (e.g. research articles), an appendant or attendant genre "can only exist in conjunction with a host and draws less attention (Yang 2016: 91), arguing that its peripheral nature and likely space restrictions may be determining factors (e.g. audioslide presentations). The notions of 'host' and 'appendant' can be transferred to the context of research project communication in order to classify the digital practices developed by researchers[20]. Subsequently, research projects websites are taken in the analysis to be the 'host' digital practice, in that they are crafted for the purpose of producing new scientific knowledge and distributing main project information. By contrast, the use of Twitter by research groups is to be regarded as an 'appendant' digital practice hinged upon the former, since social media accounts in this research context are primarily created to share updates and details based on the knowledge or information that has been produced in its host counterpart or thought to be relevant and beneficial to it[21]. This consideration entails that social media accounts, as 'appendant' digital practices, embody non-compulsory practices that positively complement the 'host' digital practices that users are expected to master.

International research groups are required to create, develop and update a research project website, but optionally choose to set up a social network account to complement their digital repertoire. This cannot occur reversely; no international research group holds a social media account, but does so without a website to inform on their research projects. The divide between host and appendant digital practices, which evidences the interrelationship between the two objects of study, is also appropriate to refer to the changing academic panorama where primary and firmly established academic genres may be complemented and/or even substituted with other

[20] A genre perspective may be too narrow and restrictive to capture the complexities of the rhetorical, pragmatic and discursive choices researchers make in RPWs and Twitter accounts. Hence, I favour the term 'digital practice' as a compendium of researchers' literacies, attitudes, goals and actions in such online environments.

[21] At this point, I would like to remark the consideration of Twitter in the whole PhD thesis not at a macro-level by which it can be employed *in isolation* and is typically used individually. Instead, the very specific use of Twitter for international research projects seems to rely on the RPWs, where they are housed, interconnected and publicised.

digital genres and media. It turns out, then, reflective of the development in scholars' repertoire of practices and in their needs to cater for their goals by adopting new communicative realities.

More specifically, Twitter enables research groups to post quick messages about their interests, goals and news, comprehensively stressing the positive development of their projects. Furthermore, as an SNS, Twitter establishes a bidirectional bridge to set off interactions with heterogeneous readers and increase the followers of the research project profile. It is believed that Twitter has the true potential to accelerate the erosion of boundaries that may exist between researchers and a broader audience (Letierce et al. 2010). To that end, the intrinsic affordances to communicate through this social medium (e.g. mentioning, retweeting) allow research groups to mediate the everyday routine of their professional commitments as well as reach other researchers, collaborators, beneficiaries and lay audiences in so doing. As Kuteeva (2016) implies, scientists as an encompassing discourse community tend to introduce themselves as a single community, rather closed, whose members share norms and concentrate on work issues. One particular function common to the individual academic usage of this social medium is to ensure a higher degree of accessibility and impact for their outputs. "Scholars use Twitter to quickly distribute information on relevant, often open-access publications, and to facilitate their retrieval. They also promote their own work, not necessarily from traditional scholarly outlets, but also from social media" (Mahrt, Weller and Peters 2014: 406). These professional purposes can be pursued because reach groups "capitalise on the interpersonal nature of connectivity that is defining for social media" (Lomborg 2010: 51).

The ethnographically-informed data collected from the interviews yielded further insights into their purposes and types of usage of Twitter. About the creation of accounts in social media in general, and Twitter in particular, most informants agreed that it was part of the communication plan of the IRP, so they considered this communicative path from the onset of the investigation:

> Las redes sociales normalmente también están definidas, digamos, desde la fase de propuesta, o sea sí que hay como una directriz en ese sentido. […] No suele estar definido qué cuentas crear, es decir, no es obligatorio siempre que sea LinkedIn y Twitter […], pero suelen ser las fijas para todo el mundo, como vimos en algunas reuniones y demás, ya que se ve que estas dos son como las que más impacto tienen y las que más se emplean, sobre Facebook, por ejemplo.
>
> [Social networking sites are normally also defined, let's say, from the phase of the proposal, so there is a kind of guideline in that sense. […] It is not determined, yet, which social media accounts to create, that is, it is not compulsory that it is always LinkedIn and Twitter […], but they are usually the established ones for everyone, as we discussed in some meetings, since these two are kind of the ones that ensure the highest impact and that are most employed, over Facebook, for example.]
>
> (Informant 5 – IRP03)

This idea reinforces the popularity and usability of Twitter for Research Dissemination Purposes. Even for research groups who were not certain about which the best social medium could be for their projects, Twitter turned out as the most long-lasting and effective option.

> Acordamos cuáles podían ser las redes sociales más útiles, basándonos en las que utilizaban los socios y las que más impacto tenían potencialmente. Twitter era una de las más agiles y se decidió usar Twitter. Creo que comenzaron otras, pero al final la que se ha mantenido activa es Twitter, o la que más seguidores tiene.
>
> [We agreed on which social networks could be the most useful ones, based on which ones the partners were used to employing and which ones could potentially have more impact. Twitter was one of the most dynamic ones, and it was decided to opt for Twitter. I think other social media accounts were also set, but in the end the one that has been kept active is Twitter, or the one that has the largest amount of followers.]
>
> (Informant 9 – IRP10)

Retweeting was also deemed as one of the most fruitful Twitter affordances by research groups in the data obtained from the semi-structured interviews. Table 4.4 illustrates some of researchers' comments to situate how retweeting is particularly employed in the context of research project communication.

Informativity	Se retuitean cosas relacionadas con el proyecto o a veces relacionadas con la temática, o sea, […] puede ser que salga una noticia, normalmente a nivel europeo, y nos incumbe y tiene relación con asuntos europeos… se da difusión a ese tipo de noticias retuiteando. [We retweet things related to the project or sometimes related to our topics, that is to say, […] a piece of news may come out, normally at a European level, and it concerns us and holds ties with European matters… it is that sort of news that are disseminated by retweeting.] (Informant 5 – IRP03)
Dissemination of outcomes and activities	Los retuits suelen ser anuncios de artículos, sobre todo, cuando se aceptan artículos de nuestro propio equipo para publicación. [We normally retweet announcements of papers, above all, when papers written by our team are accepted for publication.] (Informant 1 – IRP17) Se retuitea todo tipo de contenido, desde alguna información de las reuniones hasta algún evento que se iba a celebrar… En algún caso puede ser que también se retuiteasen las cuentas de los investigadores. [All kinds of content were retweeted, from some pieces of information about the meetings to some events that were to be celebrated… In some cases, it is also likely that the personal accounts of the research members were retweeted.] (Informant 2 – IRP20)

Networking	Se retuitea lo que han publicado otros sobre el proyecto. Siempre en relación al proyecto, o a otros proyectos muy relacionados, o a temas que estén relacionados con el proyecto, aunque suele ser más habitual publicar solo cosas del proyecto o de proyectos hermanados. [What others have published about our project is retweeted. It is always in connection with the project, or with other closely related projects, or with topics that are related to the project, although it is most common to publish retweets about project aspects and sister projects.] (Informant 8 – IRP10)

TABLE 4.4. Informants' views on the communicative functions of retweeting for research project communication.

So, retweeting clearly serves to cater for the needs and interests of the Twitter users and to set an informative background for the project. It also contributes to the dissemination of events attended and outlets produced by the research group, as well as to higher visibility of the work undertaken, which may result in a broader impact for the project and a more consistent credibility for its members. Finally, networking brings up as a further benefit for research groups to establish rapport with other users, whatever the content posted, and also to show alignment with their ideas.

In all, research project websites and Twitter accounts have been claimed to be of great relevance in the communication of research projects. The combination of the affordances of these media with users' pragmatic choices gives way to a number of processes and phenomena that can be fruitful for the research groups undertaking international projects. Although the communicative purposes sought in them converge in a way, these two venues provide researchers with different opportunities to maximise their digital identity and foster interactions with interested readers. In the next chapter, the analysis of pragmatic strategies in the EUROPROwebs and EUROPROtweets Corpora is carefully unveiled in order to understand research groups' intentions in diverse web sections within RPWs and in TRDP.

Chapter 5

Looking into pragmatic strategies

This chapter is devoted to the exploration and analysis of pragmatic strategies that have turned out as prominent in the communication of international research projects. A data-driven process to retrieve pragmatic strategies has been prioritised in order to avoid a deductive, aprioristic classification that may not fit actual practices in scientific digital discourse. Accordingly, I first present a taxonomy of 27 pragmatic strategies resulting from the close reading and analysis of the EUROPRO Digital Corpus (Section 5.1). The taxonomy is classified into three macrocategories of pragmatic intention: informative, promotional and interactional. Each of the strategies is defined and contextualised in relation to my objects of study, and illustrated with examples extracted from the corpus. Next, the data-driven taxonomy is applied to web-hosted texts of RPWs, and quantitative and qualitative findings about their ratio and use are disclosed. More specifically, the emphasis is laid upon the sections which systematically feature these websites in the corpus and portray a higher level of dynamism in their structure and content, namely *About* (Subsection 5.2.1), *Partners* (Subsection 5.2.2) and *News & Events* (Subsection 5.2.3). The following subsection provides a focused study on the *Homepages* of the EUROPROwebs Corpus, whereby I undertake a Digital Multimodal Pragmatic Analysis (DMPA) to acknowledge the role of organisational layout and visual resources, in intersemiosis with the verbal component, when projecting pragmatic intention in research project websites. Finally, an analysis of pragmatic strategies is offered in Section 5.3 as used in the Twitter accounts of the EUROPROtweets Corpus. Such a study will enable to dig into the similarities and differences between the two objects of study regarding how research groups show their communicative intention and share information about their projects with the public.

5.1. A data-driven taxonomy of pragmatic strategies

In this section, a close look is taken at the pragmatic strategies that stand out in RPWs and Twitter accounts maintained by H2020 research groups. The analysis of the rationale, frequency and use of pragmatic strategies helps unveil researchers' current practices and predominant intents when communicating developments of their projects online. Thus, the taxonomy of pragmatic strategies used as an analytical tool in this PhD thesis is disclosed and discussed in this section as a prior stage to presenting the findings in the subsequent sections of Chapter 5 with regard to RPWs and the corresponding Twitter accounts. This analytical tool is driven by the data collected in the EUROPRO Digital Corpus; that is to say, it is derived from manually reading and closely analysing the corpus data, in order to gain insights into the prototypicality of pragmatic intentions by research groups participating in the Horizon2020 programme.

The conceptualisation of each macrocategory of strategies (i.e. informative, promotional and interactional) serves as a baseline to frame and understand the scopes of the data-driven strategies, as well as their purpose and use in the corpus, overall embodying the scientists' different intents uncovered when designing the taxonomy. Next comes the enunciation of the pragmatic strategies analysed in each macrocategory, expounding their careful conceptualisations, enriched in many of the cases by the literature and other analytical studies. By way of illustration, authentic instances from the corpus are then provided so as to define and exemplify the strategies more thoroughly. Reference is made to the projects, and to the RPW sections and Twitter accounts, from which the examples of pragmatic strategies are retrieved.

The notion of 'macrocategory' has been advocated for as a useful term to encompass a series of pragmatic forces presenting shared traits in their meaning, and instantiated by a flexible number of linguistic components. In other words, grouping strategies into macrocategories of pragmatic intention will help systematise the pragmatic strategies identified and regard them as related to one another on the basis of their similarities in the intent they convey and their functions in a communicative act. The prefix *macro* is employed to pinpoint the overarching level under which the manifold strategies that are prominent in a communicative context can be encountered. Hence, it is a way of stressing the broad nature and the common goal of the strategies in question, making emphasis on users' ultimate intentions when communicating, either consciously or unconsciously, either directly or indirectly.

In all, the division of the taxonomy into three main macrocategories eases the process of understanding writers' three principal objectives –pragmatically speaking– when communicating and disseminating information about their research projects. The strategies respond to specific needs that are fulfilled by means of diverse (discursive) mechanisms. Thus, research groups 1) want to inform readers about the investigation, 2) seek to promote their work and circulate their findings, and 3) aspire to establish interactions through their texts with audiences which include addressees other than their peers. In trying to come up with the most representative pragmatic strategies employed by research groups in RPWs and Twitter accounts, the data-driven analysis gave way to a number of pragmatic strategies, which have been assigned to the three macrocategories. Precisely, the data-driven process led to the identification of more pragmatic strategies than the ones making up the taxonomy. Yet, these have been left out of the analysis because of their lack of representativeness in research groups' digital practices in general, and in

project websites and Twitter accounts in particular –it should be borne in mind that they could prominently appear in other digital settings.

5.1.1. Informative pragmatic strategies

Informative pragmatic strategies in the context of research project communication are geared towards enhancing the knowledge about the project and about the research group carrying out such research. Buckland (1991) understands 'information' as a very complex cluster encompassing information-as-process (the act of getting informed); information-as-knowledge (what is perceived in the act of getting informed); and information-as-thing (informative objects that may impart knowledge). This set of strategies focuses on the first two notions and underlines general and specific details about the research area, methods, activities and outcomes related to the investigation undertaken, as well as details about the research team and the financing institutions involved in the projects. They are generally deployed in objective and contextual ways, where practical and empirical data are provided. When conveying these pragmatic intentions, there is a pursuit for 'factuality', which rests upon a question of truth (or lie) when sharing information with others, but which is inevitably conformed to the writers' perception of the(ir) world, constructing certain representations in the texts produced (Caiazzo 2013). In that sense, the deployment of informative pragmatic strategies has a bearing on the 'knowledge building processes' and the 'asymmetric communication' (Engberg and Maier 2015b) that emerge among researchers and digital users in the exchange of project information and scientific dissemination. Table 5.1 displays the ten specific informative strategies identified in the EUROPRO Digital Corpus.

CODE	INFORMATIVE PRAGMATIC STRATEGIES
INF01	Informing about the aim of the research
INF02	Stating general background of the project
INF03	Giving specific details about an event
INF04	Reporting on research procedure
INF05	Disclosing information about researchers
INF06	Presenting the content of outreach
INF07	Explaining audiovisual elements
INF08	Clarifying technical and scientific terms
INF09	Enumerating research- and topic-oriented items
INF10	Acknowledging research funding

TABLE 5.1. Typology of pragmatic strategies within the informative macrocateogry.[22]

[22] The order chosen to present the typologies of pragmatic strategies within the informative, promotional and interactional macrocategories does not follow any preconceived criteria. The close reading of the EUROPRO Digital Corpus let me unveil some strategies more clearly than others. This arbitrary organisation does not correspond with the frequency of use of the pragmatic strategies, as will be discussed in Chapter 5, and is equally applicable to Table 5.2 and Table 5.3 in the upcoming subsections.

[INF01] "Informing about the aim of the research" is employed to elicit the rationale of the research project and the purpo se of the investigation as inserted in a scientific, disciplinary environment. It thus unveils 'research mission statements' (Mur-Dueñas 2023), both by roughly summarising the idea of the project as a whole and by referring to smaller goals that cumulatively contribute to accomplishing the main aim. This strategy is pervasive throughout the diverse sections of research project websites in different patterns and positions. It is normally displayed in the *Homepage* and enclosed in the headers of the *About* section, where users may click and find out more on the project. It may also occur in the *News & Events* section, devoted to descriptions and narratives of activities and events related to the project and the *Work Packages* section, devoted to the explanation of progressive steps and actions taken by researchers to move their investigation forward. Example 5.1 is taken from the *Homepage* of a research project, in which users can see at a glance and under a positive light the main mission of the project in question.

EXAMPLE 5.1 – IRP13 – Homepage

In Twitter, informing about the aim of the research is framed in a different way than in the RPW. The strategy cannot be as detailed and explanatory because of the technical affordance concerning character limit. Likewise, conveying such information may not be the primary focus when systematically publishing tweets. This does not mean that this strategy is not prominent in such a social medium, but that research groups are rather prone to linguistically deploying the strategy either in a straightforward way or through rather subtle and implicit mechanisms. Example 5.2 has been chosen for the former case, whereby the tweet purposefully addresses the rationale of the project and redirects users to its YouTube channel to expand their knowledge.

EXAMPLE 5.2 – IRP02 – Tweet 144

[INF02] "Stating general background of the project" can be regarded as a strategy that complements [INF01] presented above. Apart from claiming the purpose of the investigation, the research group may deem commendable to provide insights into encompassing characteristics of the project. This is useful for users to raise awareness of the surrounding aspects of the project that converge to frame the research and to state the responsibility and relevance acquired in the undertaking of the research proposed. Information in this strategy, then, tends to remark the budget allocated to the project, the number of partners and institutions participating, the overview of countries involved in the project, timely references into which the project may be divided, and data about the disciplinary field where the project is inserted. As a result, stating these practicalities has a bearing on a series of key cornerstones in current academic, scientific research. These involve issues such as the potential internationality enhanced in the research group, the principle of collaboration they have committed to, the meaningfulness of technical and economic resources at their disposal to carry out their endeavour, as well as the spatial and temporal organisation required to put into practice the theoretical work invested for the project in earlier phases.

Yet, the fact that this pragmatic strategy has been noticed to supplement the communication of the project goals portrayed by [INF01] does not necessarily mean that they need to occur together. Even when a combination of the two strategies may take place in certain parts of the RPW, devoted to the description and justification of the project itself (e.g. *Homepage, About*), it is also present in other sections where specific practicalities may help users realise the scope and reach of the project (e.g. *Partners, Work Packages, News & Events*). In this case, evidence is frequently provided in a fragmented way and by selecting the project information that supports the discourse around, which may be geared towards promotional and interactional intents. Example 5.3 epitomises this strategy by offering background information in a piece of news about a big decision affecting the biochemical sector to which the project belongs.

30th October 2017: Support for bioeconomy from US Congress

15. November 2017
Von admin

A bill has been submitted to US Congress to provide tax incentives for renewable chemicals and investments in renewable chemicals.

Please follow this link to read the bill: S.1980 – Renewable Chemicals Act of 2017

EXAMPLE 5.3 – IRP26 – *News & Events*

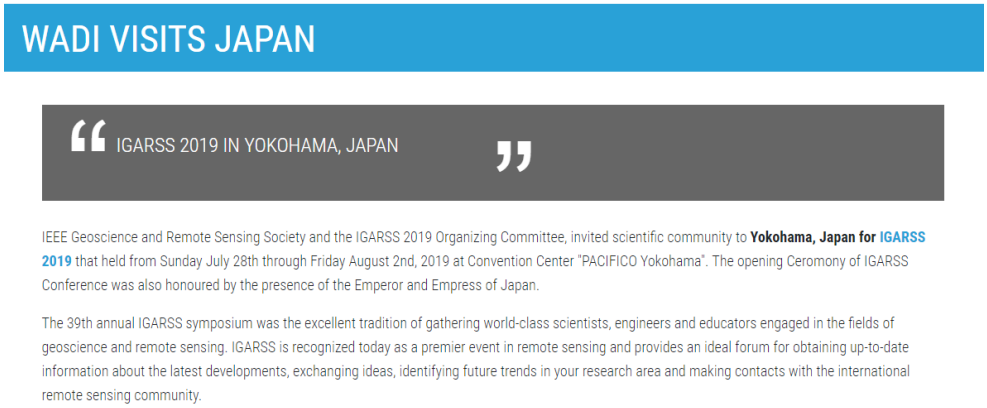
Twitter shows a different scenario, as the use of [INF02] is conceived to express project-related matters emphasising the pros of undertaking that research. In that sense, accomplishments achieved in the disciplinary field of the project, information that will have a repercussion on society and announcements of general interest made in academic and professional environments are reported over specificities of the project, as can be observed in Example 5.4. In other words, users' intent is on the novelty, meaningfulness and impact of the research project themes, and not so much on the accountability and clarification of the project characteristics. Furthermore, the public, dynamic nature of Twitter, and the unlimited, uncontrollable access to it, may prevent

researchers from publishing in this social medium information about the project that may be considered as sensitive and that is open to everyone.

EXAMPLE 5.4 – IRP12 – Tweet 347

[INF03] "Giving specific details about an event" is another pragmatic strategy that permeates the texts in the corpus published by international research groups. As indicated in the Introduction of this PhD thesis, one of the tasks and duties research projects need to carry out lies in the communication and dissemination of their research projects and results, for which they might count on some general guidelines and suggestions. Those updates about how the project is moving forward and gradually accomplishing its objectives render accountability to the funding programme, and are progressively manifested in the many public and private events each of the partners participates at. The range of such events, both at a national and international scale, may comprise conferences, project meetings, workshops, training sessions, webinars, interdisciplinary meetings and fairs, among others. This is the logic of this pragmatic strategy, which entails two overlapping purposes: i) making public any sort of information about an event in order to describe the activity and the project participation and ii) making explicit that the project invested economic and personal efforts in attending the activity and sharing their research progress.

As this acknowledgement is fundamental towards the funding body financing the project and different societal sectors, the recurrence of the strategy is equally salient in research project websites (Example 5.5) and in tweets (Example 5.6). In fact, many times information is duplicated to achieve a bigger reach and impact, maximising the corresponding medium affordances of these two settings. Overall, the strategy was observed to concern the presentation of event information and organisational details such as the time, place, capacity, fees and other technical characteristics. Moreover, the use of [INF03] may comprise the specific participation of the international research project in the given event, be it as its organiser or as an external participant (Example 5.5). Concrete names tend to be provided about the partners within the consortium and the individual researchers that attended the event and took an active role in the communication of the project, so that credit is given to them, therefore connecting this strategy with [PRO04] "Highlighting members' contribution to the project", discussed in Subsection 5.1.2.



EXAMPLE 5.5 – IRP30 – *News & Events*

Example 5.6 displays a brief tweet where details about a consortium meeting –hence, organised by the research project– are being distributed. In these cases, it is common to insert the Twitter handle of the research member in charge of chairing the meeting and to attach a picture to the tweet in which the place where the event occurs is depicted.

EXAMPLE 5.6 – IRP06 – Tweet 28

When communicating the research project, and how it is gradually evolving, it is particularly common to refer to the specific procedure implemented and the manifold stages leading to the project development. The informative pragmatic strategy **[INF04] "Reporting on research procedure"** provides explanations of the ways decided by research partners to move forward in their investigations and, thus, helps understand how results were accomplished, experiments conducted or products designed. The deployment of this strategy brings along the presentation of neutral, objective information that touches upon the methodology of the project and the scientific and disciplinary tenets, grounded on the literature and further studies, on which the investigation rests. A high concentration of technical vocabulary is normally necessary in the narration of those methods and decisions, what primarily links the use of the strategy to a specialised audience that is keen on the topic of the project and familiar with the stages presented.

Even so, information is more often than not of a practical nature, in that it is not theoretically discussed, but applied to concrete examples as cogent evidence of what the research group is doing. By linguistically expressing the procedure, it is hoped that the step-by-step process planned to carry out the project is accounted for and that other interested parties may potentially replicate such process. Usually the strategy is deployed at two levels: i) it offers the general research procedure of the whole project with a higher or lower amount of detail and ii) it foregrounds the particular methods and steps followed in a more concrete scenario, for instance, as enacted by one research partner; as conceived in one unique phase of the project; or as developed for an individual experiment.

[INF04] is likely to be elicited in research project websites rather than in social networks like Twitter. Since contributions to the research procedures involve specialised, technical and in-depth information about the project, the strategy finds a more suitable space in the website sections devoted to the presentation of the research project (e.g. *Homepage, About*), where it is succinctly introduced, as well as in those sections devoted to unpacking the stages of the project (e.g. *Work Packages, Actions, Demos*), through larger and rather holistic descriptions. Example 5.7 below displays how the procedure to treat the raw materials is expounded.

> Three continuously and periodically up-to-date pressing systems are able for de-juicing up to 2000 tons of fruits and vegetables per year. The seasonally delivered raw materials are stored, washed, crushed and pressed within a short time to guarantee best qualities. The fresh juices are clarified, pasteurized and stored or bottled using a hotfill glass bottling line. The products are distributed in the mid-German state Saxony-Anhalt and neighboring states, as well as in an online shop. They attach importance to a strong

EXAMPLE 5.7 – IRP07 – *Partners*

In Twitter, the need and wish to report on research procedures is expected to be more occasional and purposeful in cases where communicating them supports and underlines other parts of the message. As in Example 5.8, such technical information can be supplemented with pictures and internal links that aid users visualise and go in depth into the stages followed by the project and the outcomes obtained.

EXAMPLE 5.8 – IRP09 – Tweet 45

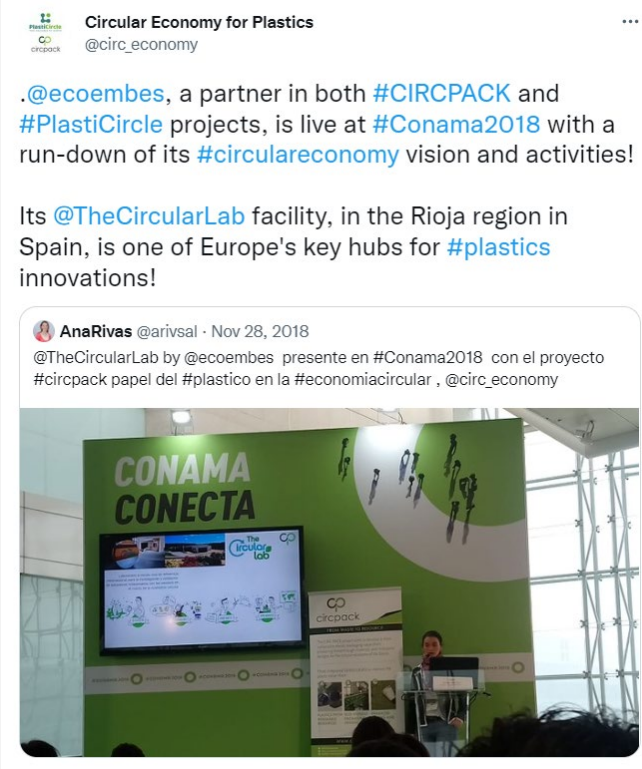
[INF05] "**Disclosing information about researchers"** refers to the account of the inner organisation of H2020 research projects, which consists of a number of partners that join the investigation from various international institutions and places making up a consortium. As such, presentations of the research partners when communicating the project are fostered by disclosing members' geographical, socioeconomic, institutional and human characteristics. The introduction of this pragmatic strategy is beneficial for the project in many senses. First, it fosters partners' digital identity by devoting some space to delineate a particular profile within the umbrella of the project that summarises partners' work, goals and principles beyond the project. Likewise, it sometimes helps stress the individual identities of particular researchers working for each partner when this is information is deemed relevant. Second, it endorses the collective, institutional identity of the research project by detaching their self-representation from the project as an abstract entity and contributing to getting to know the human capital that collaborates in the project. Third, [INF05] helps make connections about the specific roles the partners play in the project from the description of the institutions. Finally, it supports research-related narratives by emphasising partners' details when these are involved in specific actions and research results, which eases the understanding of the project development.

The disclosure of information about research members is clearly emphasised in RPWs, where research groups are both interested in and responsible for the presentation of the members of the consortium. The pragmatic strategy is substantially framed in the *Partners* section, where ample descriptions are offered –see Example 5.9. Other prominent webpages where this strategy is exploited comprise *News & Events*, where, on top of the newness claimed –pushed by the productivity and advancement in the project– the agency of a partner in question is stressed. Additional details are accordingly provided to contextualise partners' work.

> **DIN** is a non-profit organization recognized as a German National Standards body representing Germany in European and international standardisation activities. DIN prepares standards as services for the economy, state and community. Standardisation is considered as a strategic instrument to support economy and the society in general. It reduces the need for legislation and supports convergence in technology whilst allowing for a wide range of local solutions if needed.
>
> - Johann Sönke: Johann-Soenke.Nissen@din.de
> - https://www.din.de/en

EXAMPLE 5.9 – IRP10 – *Partners*

In Twitter, the strategy is conceived to underline concrete aspects of the partner that aid to comprehend and promote the development of the project, rather than to fully present the setting of the partners and their institutions. This is why the pragmatic strategy is usually enclosed in brief pieces of discourse and made salient by affordances of this social medium like mentions and hashtags. Especially in Twitter, a common pattern seems to be the combination of [INF05] with the promotional strategy "Highlighting members' contribution to the project", which will be defined in Subsection 5.2.1. Example 5.10 illustrates this case: the tweet is aimed at recognising the agency of a research partner, and details about its background and features within and outside the project are disclosed through mentions and hashtags, so that users can amplify their knowledge if desired.



EXAMPLE 5.10 – IRP03 – Tweet 583

[INF06] "Presenting the content of outreach" is key to the communication of IRPs, bearing in mind that the production of outreach is mandatorily demanded by the funding bodies that finance the projects. This strategy is deployed as the project moves forward and whenever a new piece of scientific output can be distributed. It is useful for the dissemination of many types of publications and materials aimed at diversified audiences. These concern strictly academic outreach in the form of research articles, written and graphical abstracts, and disciplinary reports, as well as outreach intended for the dissemination and popularisation of research findings, including presentations, summaries, deliverables and videos. The communication of outreach focuses on the objective presentation of its content, by synthesising the results obtained and recontextualising technical and scientific information to be found in the outreach. As part of the set of informative strategies, it does not entail a conscious address to the audience, but is restricted to the intentional presentation of research outlet.

[INF06] is pervasive across various research project website sections, such as the *Homepage*, in which the latest publications are constantly updated, *News & Events*, where the novelty and significance of the outreach are highlighted, and *Publications*, where the presentation of the content tends to pivot around the reference to the outreach. The explanation of the outreach seems to match up with the addition of links and downloadable materials when the strategy is employed. Thus, users may have straightforward access to the project output after receiving a contextualisation of what they are going to encounter. All of these aspects are shown in Example 5.11, where the strategy is found in the second paragraph. After announcing the end of the project and providing the highlights of the meeting the research group had, the piece of outreach is distributed to users and its access facilitated just by clicking on the image on the left.

Final report ORCHID available

The ORCHID (Organ-on-Chip In Development) project has been finalized. During the final ORCHID meeting in Leiden on 23 September 2019, the European Organ-on-Chip roadmap and other deliverables and milestones of ORCHID were presented to a broad audience of end-users, regulators, clinicians, developers, policymakers and patient representatives.

The final report (click left to download) describes the achievements of ORCHID and refers to the relevant documents that have been delivered during the 2-year ORCHID project.

EXAMPLE 5.11 – IRP14 – *News & Events*

A similar usage can be pinpointed in Twitter, where the outreach is made available, usually through hyperlinks. In Example 5.12, the strategy appears in the tweet itself to set the necessary information to explain what the user may find if clicking and accessing the linked piece of research output, which in this case redirects the readers to the DOI (Digital Object Identifier) with which the publication has been registered.

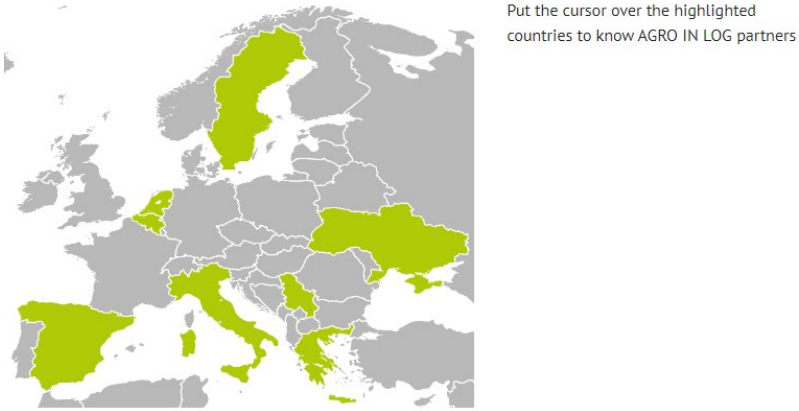
EXAMPLE 5.12 – IRP17 – Tweet 3

[INF07] "Explaining audiovisual elements" is implemented next to the resources whose nature is mainly other than purely verbal –in this sense, audiovisual. The combination of different modes makes at times convenient to explicitly include information, so that users are guided about particular audiovisual objects, which can be interwoven or overlap with the verbal text, or rather disconnected from it. The spectrum of multimodal resources uploaded in the texts published by research projects is mainly reduced to photos and videos in their websites, and also GIFs in the case of their Twitter accounts. Explanations of these elements may be effective to justify the different activities and participations of the project, and, together with the inclusion of the photos and videos themselves, to make texts more reader-friendly. Consequently, not every picture or clip hosted in the texts is explained; but this is purposefully done through this strategy when the research group wishes to build a bridge and bring readers closer to the project by informing them about its technical factors and human agents. Put differently, the sort of

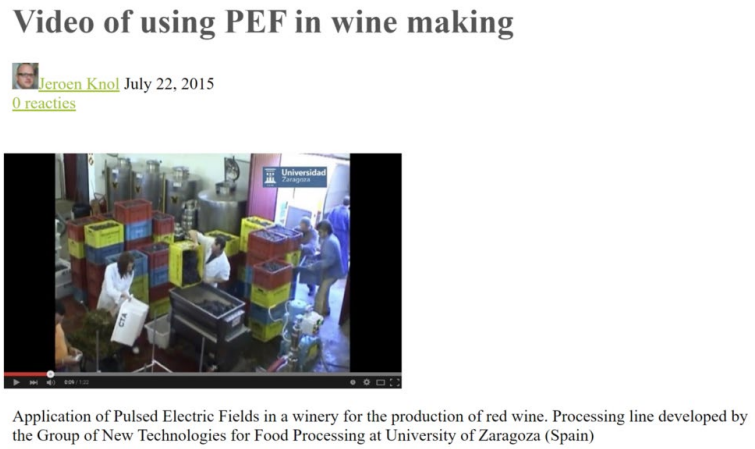
audiovisual elements intentionally disclosed usually contribute to unveiling the identity of the project and foster their institutional or communal traits.

In research project websites, the strategy is recurrently enacted as individual captions that clearly refer to the audiovisual item in question and summarise the idea behind them. This is the case of Example 5.13a, where the verbal text offers users instructions for their interaction with the maps displaying the project partners. Instead of in isolated captions, [INF07] may also be displayed as in-text information to communicate the exact content and role of an audiovisual element in the text alongside the narrative developed. To this respect, other sections prone to the use of this strategy involve the dynamic, regularly updated webpages where the research group wants to convey the impact and novelty of the project (e.g. *Homepage; News & Events*). This is depicted in Example 5.13b, where a video nested in a news entry is explained to inform about the innovative methodology of the project, which is audiovisually disseminated.

EXAMPLE 5.13a
IRP01
Partners



EXAMPLE 5.13b
IRP07
News & Events



In Twitter, the audiovisual items are attached to the verbal text of tweet and many times do not need further clarification. In the event that this is provided, the strategy may encompass the whole verbal text to purposefully disclose the audiovisual item to be found or, else, very short stretches of text to partly guide users' experience. Example 5.14 instantiates how information from the audiovisual items is facilitated by verbal explanations, so that users can more easily identify their gist, in this case involving the people featuring the photo.

EXAMPLE 5.14 – IRP12 – Tweet 39

[INF08] "Clarifying a technical and scientific term" is oriented towards the explanation of complex, normally disciplinary-specific, concepts and notions about the project. To that respect, it complies with processes of popularisation that pursue "the conveyance of specialist knowledge for information purposes" (Gotti 2014: 16). Such technical and scientific terms are inherently brought to the fore depending on the field of research and are necessarily employed when describing the research project and the steps taken. The ultimate pragmatic intent of this clarification is to provide users with an explanation, exemplification or reformulation that may *translate* something unknown into something rather familiar and easy to process, boosted by writers' potential wants and needs to return to their previous utterances and expand their meaning, clarify something that was left behind or define it with more precision (Murillo 2012). This reworking of the specialised meaning promotes the interaction between writers and readers and implies that writers take into consideration readers' processing needs, shared knowledge and rhetorical expectations in how the latter may interpret the message (Hyland 2007). The formulation of this strategy draws on recent studies in research project websites and Twitter upon the treatment of terminology (Murillo 2021) and processes of reformulation (Murillo 2022). The level of knowledge and expertise of the potential audience consuming the website and Twitter content is key to determine the extent to which technical and scientific terms are being solely described and explained, or more deeply popularised and unravelled. In the first case, a more specialised audience is targeted, whilst the second case would probably comprise a random, imagined readership, with a majority of lay users.

In RPWs, this strategy takes a prominent part in the *Work Packages* and *Partners* sections, where details about the investigation and the overall project are rigorously offered. Even if it is a specialised type of audience that research projects are trying to reach, the conceptualisation and popularisation of technical terms adds coherence and integrity to the information being narrated about a project. The usual incorporation of condensed, highly-specialised data to the texts published online pushes the deployment of writing strategies, such as

defining and paraphrasing, to ease readers' consumption of project information and development. Furthermore, this strategy enables the reader to discover more about the disciplinary field where the project is inserted, as well as about the professional specialisations of the universities and institutions that make up, as partners, the consortium of the project. Example 5.15 pertains to a web section devoted to pinpointing the case studies of the project and incorporates acronyms and definitions that epitomise how this strategy works.

Aim and Scope

The temporary working experience (TWE) in Flanders is an example of a policy instrument introduced to activate long-term unemployed people. Activation instruments in Flanders are mainly coordinated by the Flemish public employment service (PES), which also is responsible for the TWE service design. The Flemish PES collaborated with the Flemish Association of Cities and Municipalities to design the temporary working experience. Compared to the old article, which is still the legal basis of the TWE, the TWE aims to be more holistic, and provide unemployed people receiving social assistance with a *trajectory* that aims to reduce their distance to the regular labour market. In this trajectory, unemployed people can gather experience and competencies (Vlaams Parlement, 2016).

EXAMPLE 5.15 – IRP19 – *Case Studies*

In Twitter, this type of clarification is conditioned as in other cases by the character limit of the texts. Subsequently, this informative pragmatic strategy is employed by inserting short cues about notions that are key in the tweet and by adding links where the technical or scientific terms are expanded and overtly explained for diversified audiences. The navigation paths constructed through links may be internal driving users to RPWs or lead users to external websites and documents. Example 5.16 provides an instance of a tweet where the primary strategy is [INF08] and where the hyperlink gives way to a webpage external to the RPW in which the term is explained in full detail.

DICE H2020 Project
@diceh2020

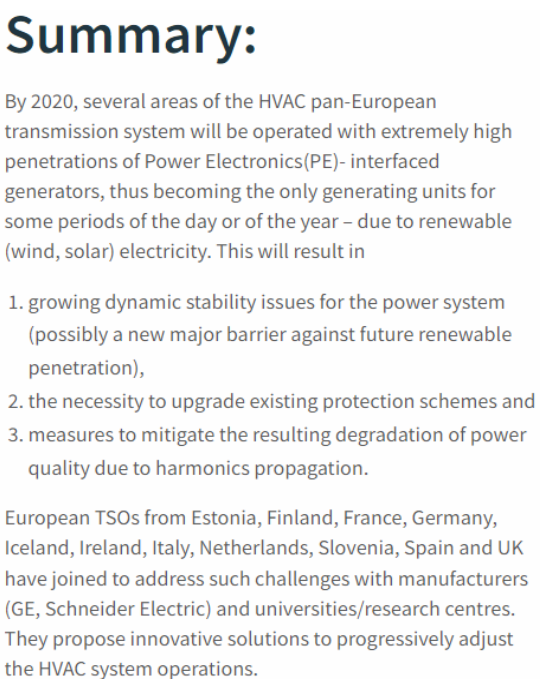
JMT Petri Net Extension for Performance Analysis of Big Data Applications: ow.ly/nJoL30j4CtG JMT (Java Modelling Tools) is an integrated environment for performance evaluation, capacity planning and workload characterization of computer and communication systems. #H2020

EXAMPLE 5.16 – IRP05 – Tweet 5

Another informative pragmatic strategy that was found to be salient across the EUROPRO Digital Corpus is **[INF09] "Enumerating research- and topic-oriented elements"**. It occurs when there is a sequence of at least two elements with a cumulative effect in the narrative about the project. In many occasions such enumerations are utilised to quickly and efficiently help disseminate information about the research undertaken or the activities developed, therefore contributing to the illustration and exemplification of the points made by the research group. The concepts of 'research-oriented' (ROE) and 'topic-oriented' (TOE) included in the name of the strategy derive from Thetela (1997), who explored these two parameters separately in her study on the evaluative discourse of research articles. Their distinction is meant to be "an important step towards correctly identifying the point of view expounded in the text as opposed to the general

content of the text" (1997: 117). Therefore, some enumerations in the context of IRPs are included to put forward a number of components related to the project, *to the research*, as a kind of evidence of what the research group is doing. On the other side, other components are listed in connection with the background of the project and its surrounding disciplinary context, thus, *to the topic*. Although this distinction may not be of the highest importance in terms of pragmatic intent, the two parameters have been found to coexist in texts where this strategy is unfolded within RPWs and tweets.

[INF09] is subject to be instantiated in all web sections where there is minimal verbal density (the exception would be the *Homepage*), as part of the intention of easing users' processing. In Example 5.17, the strategy is deployed as an illustrative concatenation of items interspersed in the narration made about the project. The strategy is encountered in-text and serves to complement the pragmatic force of other major strategies. A common example of ROE comprises the list of countries where research partners come from, following a linear logic.



Summary:

By 2020, several areas of the HVAC pan-European transmission system will be operated with extremely high penetrations of Power Electronics(PE)- interfaced generators, thus becoming the only generating units for some periods of the day or of the year – due to renewable (wind, solar) electricity. This will result in

1. growing dynamic stability issues for the power system (possibly a new major barrier against future renewable penetration),
2. the necessity to upgrade existing protection schemes and
3. measures to mitigate the resulting degradation of power quality due to harmonics propagation.

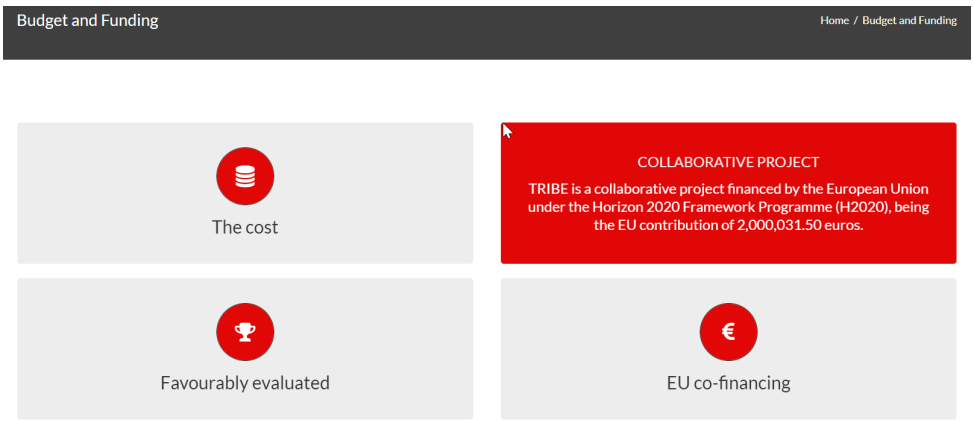
European TSOs from Estonia, Finland, France, Germany, Iceland, Ireland, Italy, Netherlands, Slovenia, Spain and UK have joined to address such challenges with manufacturers (GE, Schneider Electric) and universities/research centres. They propose innovative solutions to progressively adjust the HVAC system operations.

EXAMPLE 5.17 – IRP25 – *About*

By contrast, in Twitter, this strategy can also be realised in a non-linear way through the use of hashtags. These might be placed in diverse parts of the tweet, establishing coherence thanks to their blue colour and the interconnection of the elements hashtagged. Example 5.18 displays this use of hashtags for a topic-oriented enumeration, but one following another, in an attempt by the research group to list the keywords of an event they have attended.

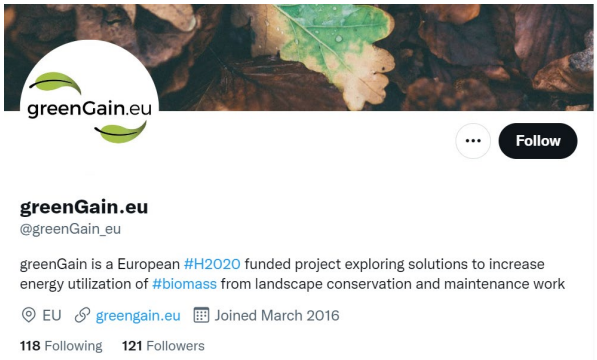
EXAMPLE 5.18 – IRP02 – Tweet 94

Finally, **[INF10] "Acknowledging research funding"** is a fundamental pragmatic strategy in the textual repertoire of the research group, although it may not show as high a frequency as the rest of (informative) pragmatic strategies, as will be shown in Section 5.2 and Section 5.3. Research groups are responsible for communicating under which conditions the project has been financed, and this inherently includes explicitly mentioning and giving credit to the funding body in question, which in this case is the Horizon2020 European framework. In so doing, research projects do not only cater for the dissemination of knowledge, but also demonstrate accountability for the funding granted (Lorés 2020). Since this is a requirement and should be communicated to anyone navigating the project website, the *Homepage* seems a logical, perfect showcase to do it from the *beginning*, as will be thoroughly discussed in Subsection 5.2.4, where the multimodal composition of homepages is explored. Apart from that, the acknowledgment is made in other texts concerning conference participation, publication of articles and products and download of deliverables, so that the user is aware at all times of the funding body economically sustaining the project. Example 5.19 introduces a grid layout in a specific webpage within the *About* section of the project coined as 'Budget and Funding'. If the user hovers on the four rectangles, pieces of text unfold emphasising the idea that the research is collaborative and counts on the financial support of the H2020 programme, specifying the amount of expenditure granted.



EXAMPLE 5.19 – IRP18 – *About*

The fluid, ephemeral, straightforward nature of Twitter does not invite researchers to acknowledge the funding of the project to the same extent in the tweets they publish. Users consuming the project Twitter account might be interested in updates surrounding the research project unknown to them, instead of information provided by [INF10], which is not immediate and with which many users may be already familiar. Nevertheless, if this strategy is found in such an SNS, it is rather in the general description of the Twitter account (Example 5.20a) or by posting and retweeting information that somehow involves the H2020 programme and includes public recognition to it through institutionalised guidelines, links or pictures where the pragmatic strategy is made clear to users (Example 5.20b). This is potentially boosted by using the hashtag #H2020 or analogue ones.



EXAMPLE 5.20a – IRP09 – *Twitter profile description*

EXAMPLE 5.20b – IRP12 – Tweet 390

Overall, the ten informative pragmatic strategies identified as prominent in the EUROPRO Digital Corpus cater for the needs of diversified users as regards different technical and practical aspects of the projects that encompass their rationale, their backdrop, their team, their production and their disciplinary and economic characteristics. Next, promotional strategies are singled out and contextualised to keep on exploring the intents of international research groups in digital texts like webs and tweets.

5.1.2. Promotional pragmatic strategies

In addition to the conveyance of information aimed at increasing the knowledge of the project and justifying its development, research groups seek to promote their investigations when communicating online. Thus, they may publicise not only the research undertaken, but also the group members carrying such research and the results and outlets stemming from the project. This idea complies with the critical view of Fairclough (1995: 40) on promotional discourse and its repercussion on the ethics of language, insofar as "self-promotion is becoming part and parcel of self-identity […] in contemporary society". His general vindication seems to be inescapable in the current practices of online communication, as "the digital domain should be seen as a 'blended' domain stemming from the functions which are fulfilled simultaneously during a

meaning-making process, and one of these functions is mainly 'promotional'" (Petroni 2011: 73). The context of IRPs is also growingly entrenched in promotional trends that may ensure a more powerful dissemination of information as well as higher impact and stronger visibility. To this respect, it could be argued that the communication of these projects, which in principle can be regarded as a non-profit-oriented activity, is also going through processes of commodification of information, marketisation of products and self-branding. Hence, the scholarly environment under scrutiny in this PhD thesis is also anchored within the 'sell and tell' and 'publish and market' phenomena invading scientific discourse. Applied to academic written and spoken events in general, Yang (2017) concurs that the promotional culture is rapidly spreading out around scholarly work and that authors and researchers are now expected to embark on the duties of promotion of their work, instead of relying on publishers, as was the case in previous decades. As a consequence, discursive characteristics of the academic digital communication, such as the one around IRPs, may be hinged upon other persuasive discourses that rather pertain to corporate, business and advertising communication. A number of studies focusing on the promotional discourse of websites and other genres within these non-academic environments allow taking a glance at common features and patterns evidencing a really high degree of interdiscursivity (e.g. Shaw 2006; Stein 2006; Bhatia 2010; Tenca 2018; Sancho-Guinda 2019). To meet their promotional ends, research groups also deploy a number of pragmatic strategies targeted at publicising and showcasing their projects. The object of that promotion, though, may be of a different nature, value and scope, but is always intrinsically related to the research undertaken. The type of strategies employed, as well as their strength when it comes to promoting the project, is thought (and will be shown) to be different in texts hosted in the research project websites and in the Twitter accounts. Table 5.2 provides the list of pragmatic strategies conveying promotional intent that have been retrieved from the data-driven analysis of the EUROPRO Digital Corpus.

CODE	PROMOTIONAL PRAGMATIC STRATEGIES
PRO01	Stating the benefits and impact of project research
PRO02	Underlining relevance and value through figures
PRO03	Hyping expected data and accomplishments
PRO04	Highlighting members' contribution to the project
PRO05	Spreading a piece of output
PRO06	Emphasising the quality and novelty of outreach
PRO07	Acknowledging external or self-praise
PRO08	Accounting for project productivity
PRO09	Claiming a project milestone

TABLE 5.2. Typology of pragmatic strategies within the promotional macrocategory.

[PRO01] "Stating the benefits and impact of project research" is one of the most salient mechanisms research groups employ to talk about their projects as found in the corpus. This promotional pragmatic strategy has a two-fold function of justifying and advertising the project. It serves to support the reasons why a particular piece of research or project should be encouraged by underlining the positive impact it may have both for the scientific world and for

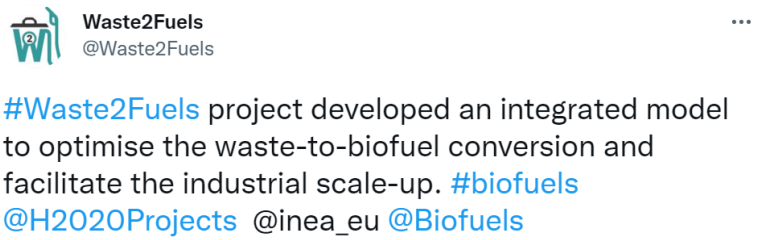
society. As such, it is often instantiated by evaluative language that remarks the advantages of the research.

The pragmatic strategy permeates research project websites across their various sections and pages. It is typically encountered in the descriptions about the projects, therefore recurrently in the *About* section, where research groups intersperse detailed information about the investigation with its positive implications. This can be checked in Example 5.21, where [PRO01] appears in association with [INF01] "Informing about the aim of the research", thus combining both pragmatic forces. Their use is also emphasised when updates of the project productivity are made, in an attempt to unfold the benefits that can bring up from the accomplishments and results communicated. In this sense, the *News & Events* sections and the *Publications* or *Output* sections are highly suitable for this intent.

uP_running project aims **to unlock the European strong potential of woody biomass residues produced by Agrarian Pruning and Plantation Removals (APPR)** and to promote its sustainable use as energy feedstock. uP_running has been constructed with the ambition of being the prelude of a self-expansion of **APPR** wood utilization in Europe. Its

EXAMPLE 5.21 – IRP28 – *About*

Looking at Twitter, the promotional intention entailed in [PRO01] is deployed in a very similar way as in the website, mostly relying on verbal features. Yet, it is much shortly encapsulated because of the tweet word limit and, thus, it is purposefully employed to summarise the scientific and social gains derived from the project research. In Example 5.22 the conveyance of positive evaluation commented above can also be observed, through items such as 'integrated', 'optimise', 'facilitate' and 'scale-up'.



EXAMPLE 5.22 – IRP20 – Tweet 14

[PRO02] "Underlining relevance and value through figures" is a pragmatic strategy found to be especially prevalent in the context of research group communication and international project dissemination. By way of providing quantitative and numerical data, research groups publicise the meaningfulness of the project being undertaken. Figures often underline the budget, prestige, expertise, scope and impact of the projects. In so doing, values such as power, collaboration, entrepreneurship and globalisation are foregrounded in the discourse deployed for the dissemination of project. Concurring with Caiazzo (2011: 108) in her research about university webpages, these "numbers and percentages create a 'quantification' environment that conveys a favourable prosody". It is then possible to sketch patterns of interdiscursivity in this regard with the discourses chiefly employed in corporate and business communication. Additionally, it is regular to encounter 'approximators', whose core function is "to sharpen or

soften the boundaries between experiential categories" (Lafuente-Millán 2008: 72), thus "covering for lack of specific information or giving the right representation of reality" (2008:70).

Different spaces within RPWs seem adequate to feature this pragmatic strategy. First, the *Homepage* and the *About* section usually display figures that frame the project and its general characteristics –see Example 5.23 below. Figures shared in these sites are public and tend to be widespread in other online sites, such as the webpages and reports of the funding bodies that finance the projects. Second, in the sections devoted to *Partners*, the strategy attempts to draw attention to the achievements of every partner in the project, offering figures about their previous professional experience, their workloads, their scientific and research initiatives and even their success in teaching and training others. Finally, the occurrence of the strategy is pertinent to dynamic website sections where texts are periodically published to report and advertise the project development in complementary ways (e.g. *News, Blogs, Publications, Results, Work Packages, Pilots*). Here, more fine-grained and concrete figures are provided, so that the steps taken and the positive payback obtained can be measured quantitatively. Depending on the communicative purpose of the section, numbers are rather provided to address technicalities, measurements, investments and costs, or to publicise scientific and socio-economic implications.

> The chemical industry is one of the most important manufacturing sectors in Europe. In 2015 the annual sales revenue was € 519 billion [1]. Despite, this huge figure, the picture is not that bright. In 10 years time Europe has lost his top spots in chemical sales in the world to China. The EU share in the global chemical market dropped from 28.2% in 2005 to 14.7% in 2015 [1]. In addition, the number of people employed in this industry dropped by 25% compared to 1998.

EXAMPLE 5.23 – IRP04 – *About*

In research project Twitter accounts, the strategy is frequently employed to boost the value and status of the project, as well as to reinforce other, more neutral and scientific pieces of project information. Thus, the inclusion of figures in tweets serves to pinpoint key facts that make the research endeavours encapsulated in the project worth undertaking, as displayed in Example 5.24. The promotional values conveyed through numbers are derived from the justification of the investigation in light of the potentially positive consequences that it may have for society as a whole. It is in the pursuit of this goal that the strategy is presented in a sort of enumeration where the consecution of figures reinforces the promotional effect. It may also be the case that [PRO02] occurs as a subsumed strategy within other informative or interactional strategies, which embody the chief intent of the research group.

EXAMPLE 5.24 – IRP03 – Tweet 541

Research groups sometimes anticipate potential project results and findings that they reckon feasible according to the fulfilment of their project planning. This is the intention of the promotional strategy **[PRO03] "Hyping expected data and accomplishments"**, by which researchers consider it suitable and appealing to share ongoing and foreseeable findings with the public, so that their attention is caught and the impact of their research emphasised. 'Hype' can be taken to be "hyperbolic and/or subjective language that authors use to glamorize, promote, embellish and/or exaggerate aspects of their research" (Millar, Salager-Meyer and Budgell 2019: 141). To ensure credibility, such hypotheses and assumptions are regularly made next to reports of the step-by-step process followed in the course of an investigation. Insights about the future consequences of the research results for different professional disciplines and societal agents and beneficiaries are also ventured. As Hyland and Jiang (2021: 190) argue, "academics have always presented their research in a favourable light, projecting a shared professional context in which their ideas make sense and appear persuasive […], so writers must carve a recognisable niche for themselves". Overall, this strategy may be conceived in research project communication as a trigger for users to catch up with the project progress, in order to check whether the results and implications that had been announced were eventually realised or not. By outlining the data and implications they are gradually obtaining, the research group transmits that the scope of the project is not only broad and ambitious, but also achievable and effective.

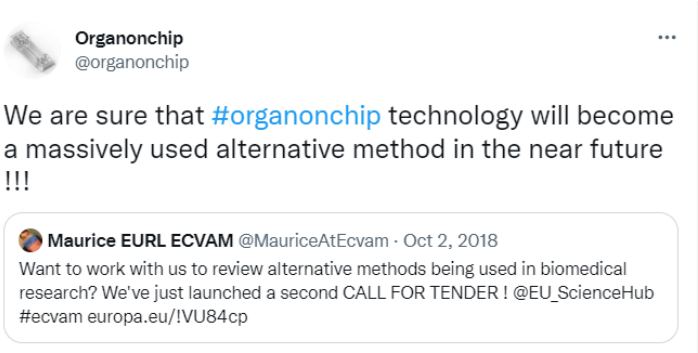
In RPWs, two scenarios are broadly appropriate to hype the project and predict that the expected findings will be met. One concerns the *About* section, the *Work Packages* section and those in the *Other* category, where information about project experiments, demos and phases is reported. The other one involves sections geared to popularise project data and communicate individual actions, meetings and events, such as *News, Events* and *Blog*. Hyped statements in this

case tend to revolve around the specific topic being discussed in the posts, and often spring from the remarks and conclusions reached and shared in such texts. As an illustration of the first scenario, Example 5.25 represents how research groups hype their projects by putting forward evaluative language in connection with their prospective results. This is captured in the opposition between 'update' and 'old-aged', the use of positive adjectives such as 'successful', 'incremental', 'significant' and 'reliable', and the repercussion for diversified agents and sectors ('improvements to existing technology', 'commercially ready').

> In that sense, the overall objective of VULKANO project will contribute not only to update the mainly old-aged European furnaces but also to create a path to follow in order to ensure a successful design in case of new furnaces. This path includes deployment of options comprising
>
> > *Incremental improvements to existing technology, and*
> >
> > *The application of significant process changes using technologies that are technically reliable and have the potential to become commercially ready in the medium term.*

EXAMPLE 5.25 – IRP29 – *About*

In Twitter, [PRO03] is similarly displayed, mirroring the patterns observed in RPWs, as in Example 5.26, where information is hyped by items such as 'sure', 'massively' and 'alternative'. Yet, tweets containing this promotional strategy may also act as a 'cliff-hanger' moment to maintain the interest of project followers, attract the attention of users at random coming across the tweet, and (re)direct the traffic of the audience towards the Twitter profile and the project website.



EXAMPLE 5.26 – IRP14 – Tweet 97

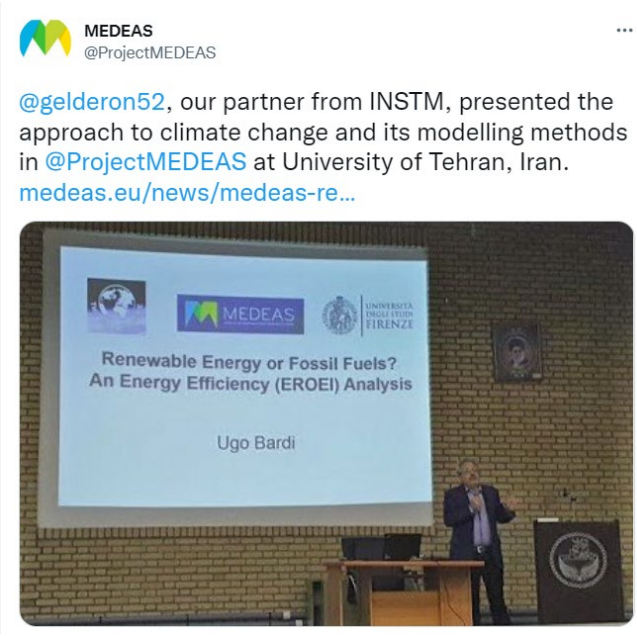
[PRO04] "Highlighting members' contribution to the project" constitutes a fundamental promotional strategy in the dissemination of research carried out by a team of researchers. Based on the exploration of the corpus, it allows international research projects to assign credit and responsibility to specific partners and to set forth how through small actions and steps they are advancing in their shared investigation. Consequently, it tends to contribute to the force conveyed by [INF10] "Acknowledging research funding", sharing how project members are actively involved in the pursuit of excellence, innovation and transfer that was accepted in exchange for funding and, consequently, strengthening accountability.

Since it concerns project members, [PRO04] is likely to permeate the *Partners* sections in RPWs, where it is often accompanied by the presentation of members' information. Such an interplay can be checked in Example 5.27, in which the first paragraph delves into the goals and characteristics of the partner, whereas the second paragraph concentrates on its role and duty within the investigation.

> The Catalysis Engineering (CE) team (**Prof. Dr. Freek Kapteijn**; **Prof. Dr. Jorge Gascon**) focuses on the application of catalysis through smart engineering with a strong emphasis on the utilization of structured materials in multiphase and multifunctional operation. CE is currently one of the leading groups in the application of regular structures (monoliths) and advanced nanostructured materials (MOFs, zeolites) in catalysis, adsorptive processes and separations.
>
> TU Delft is the project coordinator and the leader of reactor development of microwave heated catalytic systems for enhanced methane nonoxidative coupling processes. It is also involved in the development of plasma-activated catalytic systems for enhanced methane coupling processes and the catalyst development.

EXAMPLE 5.27 – IRP21 – *Partners*

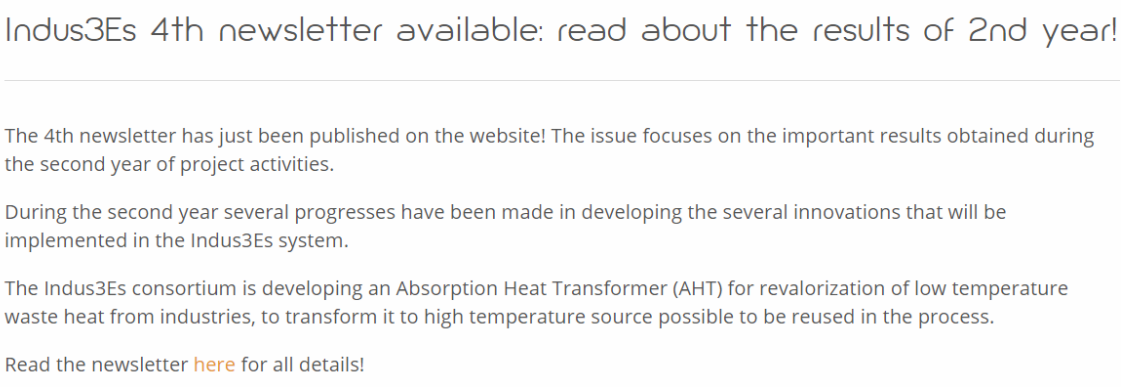
Social media like Twitter are normally leveraged to highlight the contribution of project members as related to specific events and activities. Such a usage can be connected with two different aspects. First, such an instantiation of [PRO04] can also be hinted at in the *News & Events* section of RPWs, despite not being the main focus of the entries published there. Second, the recurrent emphasis on researchers' involvement and participation contributes to the intent implied by [PRO08] "Accounting for project productivity", which is to be discussed below. The instance presented in Example 5.28 allows users to be aware of the participation of a research partner or fellow at a conference and provides an internal link to the *News* section of the website in order to expand the information about the event and the researcher's contribution.



EXAMPLE 5.28 – IRP12 – Tweet 8

[PRO05] "Spreading a piece of output" entails the purposeful advertising that a new piece of outreach derived from the project is out. The promotional nature of this pragmatic strategy is based on the fact that specific texts are devoted to publicise the published material in various website sections and tweets. Accordingly, [PRO05] is closely linked to the 'publish and market' principle that seems to rule the current scholarly system, emphasising the meaningfulness of 'secondary output' (Puschmann 2015), as much as the primary one, which responded to the now somehow incomplete 'publish or perish' axiom. By making such outputs public and available in digital environments and enhancing their notification, the visibility of the research(ers) and the potential consumption of those outlets are increased with regard to specialised and lay audiences. The gamut of items and materials stemming from research projects is manifold and can range from *primary* academic genres, such as abstracts, conference communications, research articles and call for papers, to rather *secondary* informal, non-specialised texts and materials geared towards the dissemination and popularisation of the project (downloadables, leaflets, posters, demos, etc.). One alternative occurrence of this strategy involves the publication of documents that are required by the funding institution enabling, economically speaking, the functioning of the project. This sort of output would mainly comprise fact sheets, guidelines and reports.

The sections in RPWs where this strategy is mostly exploited tend to be *News & Events* and *Publications* –or any inner webpage housed within them. In these spaces, the pragmatic intent is clearly emphasised by describing and narrating the inception of the piece of output, the necessary development and performance to produce it, and the technical details related to its publication and its access –see Example 5.29. Yet, it is also possible to find hints at these outreach items in the *Homepage* of the research project, in which small chunks of information are provided as a catch to access a post or a webpage, and the newest feedback about the project is captured in strategic, visual places to entice the readership.



EXAMPLE 5.29 – IRP24 – *News & Events*

Twitter is also a favourable space for [PRO05] to be deployed. In cases where this promotional strategy is the main intent of the research group, the tweet follows a three-step structure, as epitomised in the snapshot below. First, the announcement of the output is made, typically initiated with emojis as attention-getters underlining its newness. Second, concise information about the output is provided, tapping into the informative strategy [INF06] "Presenting the content of outreach", which plays a subsidiary role here. Third, links are inserted,

also in combination with emojis, deploying the interactional strategy [INT03] "Inviting the audience to consume research project output". In Example 5.30, users can consult a document containing an interview in depth and stay tuned to notifications about upcoming outputs.

EXAMPLE 5.30 – IRP03 – Tweet 659

One more promotional intention in the communication of research projects is encapsulated in the strategy **[PRO06] "Emphasising the quality and novelty of outreach"**, by which the transfer of research to society is heralded. Research groups seek then to bring to the fore the usefulness and adequacy of the research undertaken in the project by highlighting its potential applications. The objective is clearly to connect two ends of a string: on the one hand, the work of the project and the results achieved and, on the other, the societal agents and the users that will likely benefit, directly or indirectly, from the project. In this sense, this strategy does not abound in the texts of project websites and Twitter accounts in the way others do, but its use is reserved to occasions where advances of the project are made, and encounters and activities with sectors of the society are organised.

The RPW section where [PRO06] is most prone to being displayed is *News & Events*, where the latest information is periodically offered, and links are gradually established as regards how the project achieves its results and fulfils its objectives. Likewise, this pragmatic strategy may be employed in the *About* section, intertwining the goals of the project with how interested parties can make use of the project outreach. This is elucidated in Example 5.31, where 'food retailers' and 'technology providers' are addressed as the main beneficiaries of the report published.

> SuperSmart supports the introduction of a new "EU Ecolabel for Food Retail Stores" by developing draft criteria as well as preparing a technical report required in the first phase of the label establishment. Food retailers, as well as technology providers can benefit from the recognition effect the EU Ecolabel has, highlighting their environmental credentials while saving energy, money and other resources.

EXAMPLE 5.31 – IRP27 – *About*

In Twitter, the quality and novelty of outreach is normally foregrounded by pictures and videos where the transfer to society can be observed straight away. Such a choice also serves to compensate the lack of space in a tweet to deploy the strategy in full detail. As shown in Example 5.32, interactional strategies, such as [INT05] "Praising and thanking others" may follow the occurrence of [PRO06], not only to show gratitude, but also to prove the involvement of the participants and the effectiveness in transferring the outreach.

EXAMPLE 5.32 – IRP18 – Tweet 61

[PRO07] "Acknowledging external or self-praise" also contributes to enhancing the positive self-representation of the research group and the credibility of reputation enclosed in the investigation of the project. Forwarding the praising made by others has a natural promotional component. In the case of self-praise, I consider it to be "a converse of a compliment: while a compliment is intended to enhance the face of the hearer, self-praise is oriented towards the speaker" (Dayter 2014: 92). In either case, the aftermath is that credit is provided to the research project and its members through rather explicit attributes highlighting positive aspects and evaluations of the project (possessions, achievements, characteristics, skills), which will be understood positively by the audience. While in F2F interaction, such an attitude might be detrimental, in certain settings of CMC self-promotion, as enacted, for instance, through self-praise, tends to be consented and even ambitioned (Dayter 2018).

Research project websites are not so prolific as Twitter accounts in the deployment of this promotional strategy. However, one can observe excerpts in various sections, such as *About, Partners* and *News & Events*, where external praise or self-praise is encoded. Example 5.33, taken

from the general introduction of a project consortium, shows the deployment of [PRO07]. Evaluative keywords are comprised in the excerpt to improve the portrayal of the partners (e.g. 'carefully composed', 'expertise', 'ambitious', 'well-balanced', 'complementary', 'willing to closely cooperate', 'added value', 'required for success'). It should be noted that the use of typographic resources like bold font reinforces the effect of this promotional strategy.

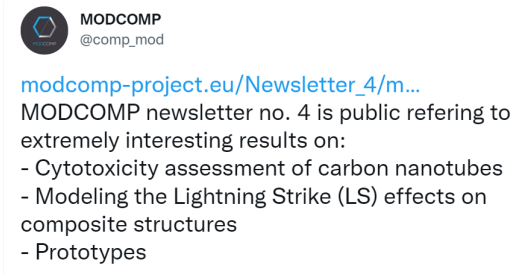
CONSORTIUM AS A WHOLE

The MODCOMP consortium is carefully composed in order to include all the expertise and access to facilities needed to reach the ambitious aim of the project. As no single organization or country has the capacity to successfully bring about the innovations and validations intended in MODCOMP on its own, a well-balanced consortium has been arranged, with partners that are complementary to each other and are willing to closely cooperate in creating a research environment as envisioned in **MODCOMP's ambitious aim.**

All partners in this consortium have been selected in view of their individual expertise and complementarities. The partners realize that there is in some cases some overlap in their expertise, but see this as an added value to the project since this will facilitate cooperation. The project involves partners from EU members and administers the resources in terms of personnel, knowledge and equipment that are required for success. **This multinational cooperation is essential in order to reach the intended objectives.**

EXAMPLE 5.33 – IRP13 –*Partners*

Twitter affords other paths to demonstrate the intention encoded in [PRO07]. Example 5.34a displays a more subtle instance of self-praise, by remarking how 'extremely interesting' the results presented are. Example 5.34b illustrates a case of external praise, where a tweet published by the project has been quoted by another user and later retweeted by the project to include it in its own feed and, thus, make the compliment manifest to its followers.



EXAMPLE 5.34a – IRP13 – Tweet 9

EXAMPLE 5.34b – IRP08 – Tweet 152

[PRO08] "Accounting for project productivity" is a promotional strategy concerned with the provision of evidence of what the research group is doing for the project. Hence, this strategy touches upon the performances that positively affect the project and, as ostensibly observed in the EUROPRO Digital Corpus, is interconnected with other strategies that render visible how the productivity of the project and its members is materialised. It is frequently combined with [INF03] "Giving specific details about an event", as it normally involves participation in events such as conferences, symposia, meetings and fairs, as well as with [PRO05] "Spreading a piece of output", as the release of outlets in the form of publications and materials also indicates the pace of activity that the project is keeping. Thus, [PRO08] tends to encompass other strategies and, in that sense, embodies a major intention within this promotional macrocategory, in particular, and in the communication of research projects, in general.

In RPWs, it is mainly housed within the *News & Events* section, where the productive activities and tasks of the project are updated –Example 5.35, but can also be found in the *Homepage* through bits of information, and in some *About* sections, where the definition of the project and its goals is combined with concrete actions and activities the research group has undertaken. By contrast, in Twitter [PRO08] is clearly predominant in the way research groups post information on a daily basis. Usually the scope of the strategy spans the whole text, other strategies are embedded within, and multimodal elements are attached to the tweet –Example 5.36. The emphasis on what the research group has done is fostered to a certain degree by the infrastructure of this social medium, since its rationale invites average users to claim what they do, how they do it and what they think.

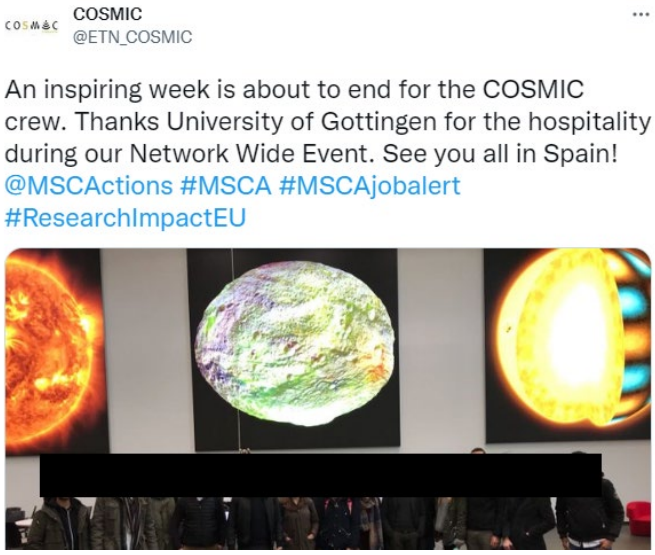
TRIBE's innovations on ICTs at the Smart City Expo World Congress

The city of Barcelona hosted a new edition of the Smart City World Congress, one of the largest events for smart cities projects in the context of urban development.

More than 18.750 attendees, 675 exhibitors and 420 speakers are some of the key figures that describe the impact of this forum, which is supported by European, Spanish and regional institutions and public administrations.

The congress addresses several aspects of the smart cities, from policy and planning aspects to technological developments on digitalization, monitoring or simulation
CIRCE, project coordinator, was responsible of presenting to the audience the general scope of the project and its main achievements.

EXAMPLE 5.35 – IRP18 – *News & Events*



EXAMPLE 5.36 – IRP04 – Tweet 30

Finally, related to the previous strategy is the case of **[PRO09] "Claiming a project milestone for the research group"**, which is deployed whenever research groups intend to underline landmarks they have achieved for the project and for its successful development and communication. Two different foci can then be pointed out in how the project is moving forward. On the one hand, it involves big changes around the project, such as the addition of a new partner

to the consortium, the beginning or finalisation of a work package, the organisation of annual and mid-project meetings where all the consortium is gathered, the implementation of specific experiments and tests, the media coverage of the project activities and the hallmarks of publications and other outlets. The promotional effect of the strategy lies in the emphasis on the quality and validity of the research undertaken, and the expertise and reputation of the project members involved in it. On the other, the strategy can be concerned with the announcement of the project website, the first tweet published in the project Twitter account, the first entry in the project blog, the release of the first and final newsletters of the project, and so on. These are key stages that are worth highlighting for the communication plans and commitments of the project.

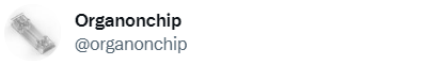
In RPWs, claiming a project milestone is mostly displayed in the *News & Events* sections, where whole entries may be devoted to commenting the accomplishment made by the consortium for the project. Example 5.37 below presents the entry within an *Events* section where the first ever meeting of the project is publicised. Likewise, the *Homepage* can also host this intention through headlines and brief announcements where the milestone is summed up and usually linked to another section within the web –typically the *News & Events* sections, as just mentioned.

The **AIDA-2020** (Advanced European Infrastructures for Detectors at Accelerators) **project** begins 1 May 2015 and will run for 4 years. The kick-off meeting marks the official start of collaboration, when the 38 beneficiaries and numerous associate partners will come together at **CERN** within the AIDA-2020 framework. The Kick-off will consist of parallels meetings of Work Packages, plenary sessions, a Steering Committee and a Governing Board meeting.

For questions or further information on the AIDA-2020 Kick-off meeting please contact the Local Organizing Committee.

EXAMPLE 5.37 – IRP22 – *News & Events*

In Twitter, it is easy to identify this strategy, because particular tweets are purposefully published at specific moments in connection with these milestones. While [PRO08] enabled research groups to post on a daily basis about the tasks and duties that they were tackling, [PRO09] has a much more exceptional character where achievements are emphasised to a higher extent. Example 5.38a shows a tweet in which the launching of the webpage is claimed, whereas Example 5.38 exemplifies how the research group proclaims the first project publication. In both instances it can be observed how the audience is made explicitly aware of the satisfactory execution of the project goals and plans.



We have our new webpage ready !!!
h2020-orchid.eu

EXAMPLE 5.38a – IRP14 – Tweet 177

EXAMPLE 5.38b – IRP04 – Tweet 15

In a nutshell, these nine promotional pragmatic strategies uncover the intentions of research groups to advertise their work and commitment, as well as to improve their self-projection and build a positive digital identity. In the end, they all contribute to boosting the e-visibility of the research project. As follows, the interactional macrocategory of pragmatic strategies is described to discuss how research groups target users through their project websites and Twitter accounts and establish bridges with diversified audiences that comprise both specialised and non-specialised readers.

5.1.3. Interactional pragmatic strategies

The ultimate pursuit for research groups to embark on digital communicative practices seems clear: texts are published online so that an audience can navigate through them and consume information about their research projects. Yet, unlike other digital environments, the RPW, which can be regarded as the main portal to hold that content, does not foster bidirectional dynamic relationships between the authors of texts and the users visiting them. In Twitter, interaction can be expected to present a higher degree of action, since it may be supported both by the technical and communicative affordances of the social network, as suggested in Subsection 4.2.1). Even so, interaction between research groups and their diversified audiences should be approached in a different manner from the conventional understanding of 'interaction'. Landert (2017) approaches the clash between the technological potential of social media and the actual degree of reciprocity among users by resorting to three concepts: 'interaction', 'participation' and 'involvement'. Although many times overlapping and employed indistinctively, they imply in principle different nuances. Interaction entails a bidirectional exchange of messages granting participants the opportunity to intervene and respond; participation would be a broader term where participants accomplish an effect with their messages in social processes; and involvement is related to engagement derived from emotional and evaluative components (2017: 31-32). In the context under analysis, the tendency indicates that users' interaction is rather associated with 'involvement' (in websites more prominently than in Twitter), but participants are not neglected the chance to set more bidirectional paths in either case.

At this stage, two notions are very fruitful to comprehend how research groups deploy their interactional intentions in the digital texts they produce: 'interactivity' and 'dialogicity', understood as medium-dependent and user-dependent affordances, respectively (see Figure 4.2). Both tap into certain mechanisms by which interaction can be promoted in an asynchronous, unidirectional way, in the end manifesting the willingness to reach a wide public and disseminate the information about their work to potentially interested readers. 'Interactivity' is intrinsically afforded by digital texts, as opposed to previous offline settings, since "they not only represent certain meanings but also enable 'users' to act at given sites and achieve certain effects" (Adami 2015: 134). It has been a recurrently elusive concept causing mismatches with 'interaction', but 'interactivity' is understood in this PhD thesis as 'product' rather than as 'process' (Stromer-Galley 2004), in the sense that it focuses on a user's active relation with digital media. As such, texts would make it obvious to users what features can be activated and what actions can be

performed, and it is this type of 'interaction' which chiefly predominates in digital genres used for specialised communication.

Furthermore, one route to achieve interaction in specialised communication concerns the understanding of texts as sites of dialogue geared towards interactions among human beings and underpinning bonds in their production and reception, in such a manner that relationships are fostered between writers and readers (Gil-Salom and Soler-Monreal 2014). Echoing Kent and Taylor (1998), dialogic communication involves any interchange of ideas, attitudes and perspectives among interactants, in the form of open and negotiated discussions, for them to arrive at mutually satisfying positions departing from their intersubjective selves. Hence, 'dialogicity' influences and is influenced by the author's rhetorical actions, persuasive purposes and intended effects, as well as by the reader's reactions and the textual genre selected.

One further connection to understand how research groups establish interactional bridges with digital users can be made with Fløttum's (2005, 2010) theory of 'polyphonic visibility' as a common feature of academic discourse –in offline settings in her proposal. It entails a multivoiced perspective where both explicit and implicit manifestations of the self and the other should be examined. Accordingly, "linguistic polyphony is a subtle way of bringing both self and others into a text which at first sight might be considered to be 'objective' and deprived of traces left by the author or by other voices" and ascertains the need "to modify the traditional view of scientific discourse as objective and fact-oriented" (Fløttum 2005: 35).

It is based on all these assumptions that strategies with an interactional scope have been explored in the corpus, searching for the ways the audience, which is inevitably hard to measure and, therefore, diversified when dealing with online communication, is addressed and enticed as regards the characteristics and updates of the research projects –see Figure 2.2 and Figure 4.3 in this respect. Table 5.3 unveils the eight pragmatic strategies that were identified as representative for both research project websites and Twitter accounts in the EUROPRO Digital Corpus:

CODE	INTERACTIONAL PRAGMATIC STRATEGIES
INT01	Guiding the audience to perform an action
INT02	Engaging the audience to participate in the project
INT03	Inviting the audience to consume research project output
INT04	Fostering networks
INT05	Praising and thanking others
INT06	Hooking the audience
INT07	Offering contacts for information
INT08	Making information visually salient

TABLE 5.3. Typology of pragmatic strategies within the interactional macrocategory.

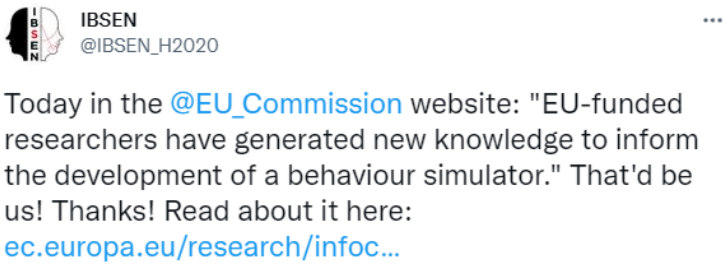
[INT01] "Guiding the audience to perform an action" is characterised within the interactional scope by its straightforward illocutionary force in the relationship between the sender and the receiver of the message. It occurs where reference is made to the potential addressee of the text upon a 'site of action' (Adami 2015). Consequently, the attention of readers is purposefully called for them to decide whether or not to take a course of action. The analysis

of the corpus displays that [INT01] is frequently deployed through a high degree of directness, thus being often instantiated by imperatives and personal references. Yet, other cases were also sketched where users are guided through more implicit mechanisms, like positive evaluation, exclamations and emojis symbolising action. In either case, in all instances there is a clearly common intention by research groups to exert an influence on users' 'navigation path' (Askehave and Nielsen 2005) and, so, hyperlinks particularly stand out as the preferred sites of action in the configuration of this strategy. Users are driven through hypertexts from sections and webpages of the RPW to the profiles of the social media accounts of the project and vice versa, as well as to external sources of information. These sites of action can be of three different types (internal, peripheral or external), as disclosed in Subsection 3.1.2.

[INT01] is pervasive across all the webpages of RPWs and is usually employed in tweets, as an asset enabled by the affordances of these digital settings with which research groups can attempt to drive users' experience of their content. Example 5.39 shows various examples of the strategy in a section the research group has devoted to a repository of resources. Supported by multimodal items, the layout of the webpage indicates three sites of action towards which users are guided. The first one is located at the top of the excerpt, where users are encouraged to download a document; the second one is found on the left side through the inclusion of icons to click on and activate videos; the third one has been placed at the bottom right side, where users are given the chance to 'view more'.

EXAMPLE 5.39 – IRP16 – *Output*

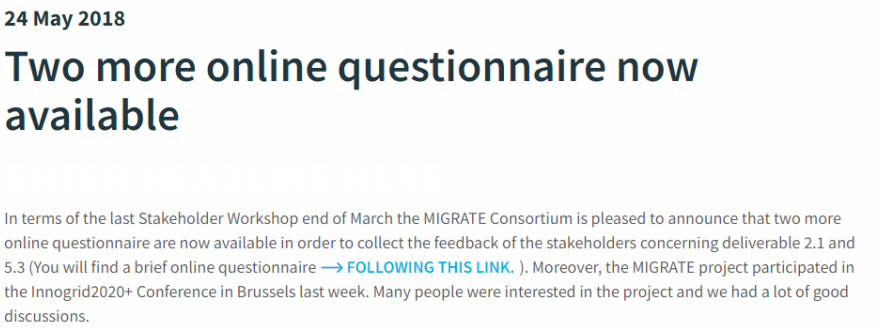
This interactional strategy functions in a similar way in Twitter, although it cannot be as much enhanced by multimodal resources as in the web environment, constrained by the technical affordances of the social medium. In this sense, it is hyperlinks that normally guide users in their consumption of information within the Twitter account and out of it. This is illustrated in Example 5.40, where an article is presented through the strategy [PRO05] "Spreading a piece of output" and the link to access is provided, so that users have it easily at their disposal. The use of the imperative 'Read' calls users' attention in a very straightforward way.



EXAMPLE 5.40 – IRP11 – Tweet 75

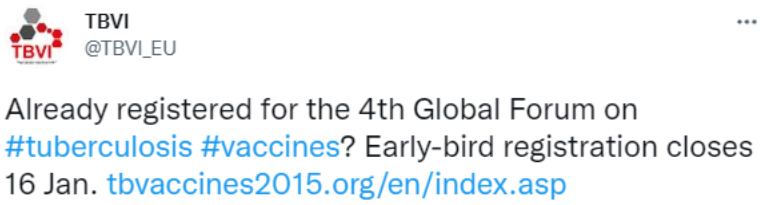
[INT02] "Engaging the audience to participate in the project" is manifested in the digital discourse employed by research projects both in their websites and Twitter accounts. As projects are receiving funding and undertaking investigations that will ultimately have a positive effect on society, engagement is important for societal agents to be familiar with the strands of research that are being developed. This strategy entails the attempt to connect the research project with the readership by involving potential consumers of project information in the research process. Some cases found in the projects of the corpus include announcing experiments in which anyone can participate, offering details of activities that the research group will organise or participate at –where meetings between researchers and users can take place, and launching applications, demos and programmes that interested people can download and benefit from.

It is noticeable that RPWs may have a particular space in their menu devoted to the promotion of engagement and participation (e.g. IRP11). Moreover, reports and instructions in other sections, such as *Work Packages* or *News & Events*, also provide details about the ways readers can get to know the project better and play an active role in its development. Example 5.41 is extracted from the *News & Events* section of a project, where users are urged to fill an online questionnaire for the research group to obtain feedback about their work.



EXAMPLE 5.41 – IRP12 – *News & Events*

By contrast, this type of pragmatic intent is distinctly reflected on Twitter, where engagement with society is fostered through short straightforward messages that announce and spread how users can become familiar with the project. Many times, links to the corresponding project webpages are attached, boosting website traffic, so that followers of the project at Twitter can retrieve broader information about how they can engage in the event, the experiment or the product organised or released by the research group. Example 5.42 comprises an invitation made by the research project for users to register at an event.



EXAMPLE 5.42 – IRP17 – Tweet 173

By **[INT03] "Inviting audience to consume research project output**", research groups address users to access pieces of output derived from project development. The pragmatic force of inviting readers to go through the latest project results and findings is many times directly manifested, for which several verbal and visual mechanisms can be employed. It is worth remarking the connection of this pragmatic strategy with the digital, technical affordances of the texts where it unfolds. As opposed to other pragmatic strategies that will be disclosed further on in this section (such as [INT06] and [INT07]), [INT03] steers users towards following a finite path that will end up in a static document. The fact that [INT03] leads to a final destination implies that users' navigating mode in the consumption of the information (Askehave and Nielsen 2005) is orchestrated so that users end up encountering the outreach wished to be accessed by the research group. In most of the cases observed, the route involves a maximum of two clicks with three clear patterns:

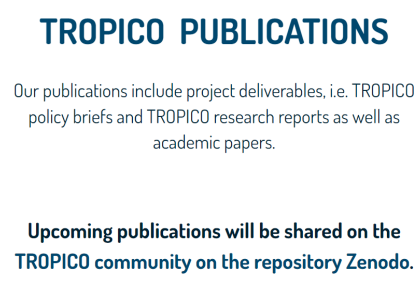
1) Within the project website (one click away): the piece of output is accessed through internal hyperlinks that lead to documents within a project web section.

2) Twitter to project website (two clicks away): the tweet includes a hyperlink directing users to the webpage where the link to the document can be found. Internal and peripheral hyperlinks are usually included.

3) Project website or Twitter to external source (two clicks away): a hyperlink is offered in the webpage or tweet leading to an external website (e.g. a journal, a repository) where the output is housed –therefore through external hyperlinks.

In research project websites, [INT03] is utterly deployed in the *Output* section (also labelled as *Publications, Outreach* or *Deliverables*). Here, researchers not only upload and make visible the publications and materials that have emerged from the project, but also encourage the audience to click and access the documents, to read the project advancements and share them, and even sometimes to give feedback after going through them. The strategy is in principle geared to a diversified audience without paying attention to their level of expertise in the project and its disciplinary field. However, it seems reasonable to argue that it may be rather oriented towards specialised users, as in Example 5.43a, where they are led to the Zenodo platform crafted for the research project. As discussed for other strategies, *Homepages* are also a fruitful space to entice users to access the output highlighted as they scroll down and captured in the previews of the website sections. Such a pragmatic intent can also be conveyed elsewhere in the RPW, such as in the *News & Events* section. On top of the communication that a new article, report, presentation, or whatever piece of outreach has been released by project members, purposeful invitations to

users are inserted, stressing the illocutionary force of the strategy. Example 5.43b displays this scenario in combination with the promotional strategy [PRO05].



EXAMPLE 5.43a – IRP19 – *Output*

EXAMPLE 5.43b – IRP06 – *News & Events*

In Twitter, this strategy is prominent, too, as the social network affords a great distribution and potential repercussion of the pieces of output. The speed and dynamism in which users interact with the tweet and process the pragmatic strategy may be far quicker than in the website. Users' response may vary greatly, from retweeting the original tweet and adding a comment, liking it and storing it in their Twitter account for permanent access, to navigating through the website in which the announcement has also been made or directly accessing the document containing the outreach published, often in pdf-format. It is interesting in this sense to look at the degree and type of interaction emanating out of the occurrence of this strategy. Example 5.44a gives proof of how research projects try to prompt users' sustained involvement in the consumption of their output. In this tweet, the audience is requested to register in the website to receive the latest advancements of the project. Example 5.44b resembles the occurrence of [INT03] in websites. Through a directive, users are driven to the *Publications* webpage of the project, complying with the second case stressed above –Twitter to project website (two clicks away).

EXAMPLE 5.44a – IRP03 – Tweet 571

EXAMPLE 5.44b – IRP12 – Tweet 290

[INT04] "Fostering networks" constitutes an interactional pragmatic strategy aimed at the establishment of bonds and relationships between research project members and other, varied users. This intent is particularly appealing in light of the context of funded research projects, like

the ones under analysis in this PhD thesis. As contended in Chapter 1, research is being increasingly shaped by the tenets of internationality, multidisciplinarity, collaboration and connectedness. All these values, promoted by European institutions, programmes and funding bodies, are reflected in the discourse employed by the projects enrolled in such a framework. Therefore, pushed by the advantages of undertaking research with a global, participatory scope, research groups seek for connections with other interested researchers, institutions and users, and publicise such interactions to be recognised publicly and to give credit to the tandems and networks created. The formulation of this strategy departs from Curry and Lillis (2010), who claim that participatory access to local and transnational, durable research networks is crucial to scholars' success, in their case emphasising how multilingual research can enter the spiral of English-medium publications.

Figure 5.1 puts forward the four directions that relationships between research projects and societal agents can follow. Networking in each of these cases may pursue distinct goals, but is thought to benefit the successful implementation of the project and to comply with the commitment of the research group to try to attain innovation and excellence. The *up* axis includes networks at a macro-level featured by institutions. It concerns European organisms and funding bodies, which in the end act as a framework for the project (hence, they are positioned above). The *down* axis meets the other end of the string and focuses on the non-specialised audiences that may come into contact with the project, like random digital users and citizens in general. The *in* axis revolves around the internal networks that are promoted for the sake of the research. The structure of the international consortia made up for the realisation of the projects makes it necessary at times to foster the relationships among research partners, individual project members and eventual collaborators. Finally, the *out* axis entails the networks interwoven with the stakeholders and the beneficiaries of the project, which may encompass target societal sectors, public institutions and universities, private corporations and other sister projects in an analogous position.

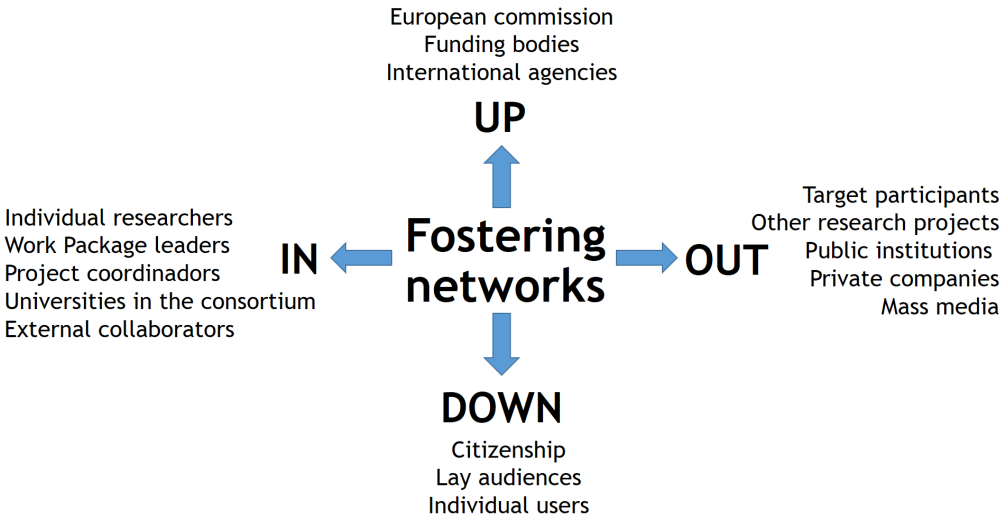
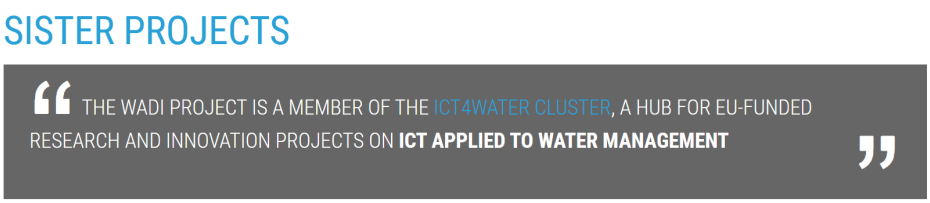


FIGURE 5.1. Networks fostered by research groups with diversified societal agents.

Throughout the EUROPRO Digital Corpus, the use of [INT04] has been detected to present an indirect nature, in the sense that no bidirectional interaction is regularly established in

order to create the networks between the interested parties. Rather, a series of mechanisms are used to imply that collaboration between researchers, teams and projects is taking place and that links are being strengthened. Example 5.45 is retrieved from an *About* section, in which the research project clearly indicates that it is framed within a bigger cluster that receives European financing, thus foregrounding the *up* axis presented in the figure above.



EXAMPLE 5.45 – IRP30 – *About*

In Twitter, it is more recurrent that the four axes of networks are jointly underlined, especially resorting to the affordance of mentioning in order to explicitly address other users and and create or reinforce the network in question. Example 5.46a shows a counterpart case to Example 5.45, where there is a mention to the participation of the Horizon2020 project in another research project, but the funding received is not acknowledged –therefore rather focusing on the *out* axis. In turn, Example 5.46b illustrates the network fostered by the research group with its project members, so that they are aware of the event and can disseminate further the tweet (falling onto the *in* axis).

EXAMPLE 5.46a – IRP18 –Tweet 85

EXAMPLE 5.46b – IRP10 –Tweet 38

[INT05] "Praising and thanking others" is considered to be used when an external person, group, institution or whoever contributing to the project is flattered. The help provided and the positive consequences in the research project tend to be highlighted. Both praising and thanking have been here grouped together because of the proximity of their pragmatic intent in this digital context. It is remarkable that this pragmatic strategy, and in particular praising, is normally directed towards a third person that is not *present* in the interplay between the author and the reader. In that sense its scope does not only concentrate on the interpersonal and bidirectional potential that other analyses of these speech acts and pragmatic politeness strategies may explore when occurring online (cf. Theodoropoulou 2015, Sifianou and Bella 2019).

Praising and thanking in research project websites is likely to be deployed in the sections devoted to *Partners* and *News & Events*, for being the ones where researchers are commonly mentioned. The instance in Example 5.47 contains the praising to one of the consortium partners,

by remarking that it is *a recognised expert* and that they have *extensive networks*. Naturally, then, positive evaluation plays a relevant role in enhancing the face of others.

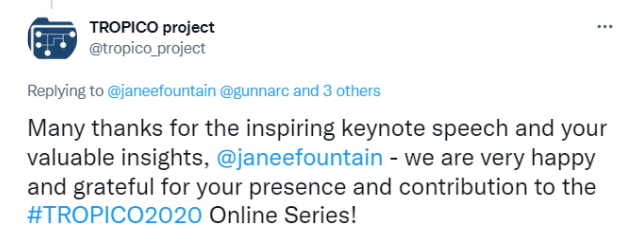
EXAMPLE 5.47 – IRP26 – *Partners*

In Twitter, the saliency of this interactional strategy is higher than in websites. The social nature of Twitter facilitates the direct interaction among users, who usually post face-saving messages that include praise and gratitude. Three examples from the corpus have been selected to provide an overview of the occurrence of this strategy. Example 5.48a depicts a tweet where the research group thanks everyone that participated at a meeting that was beneficial for the research project. In Example 5.48b, we can see that thanking is made on the basis of another tweet, by quoting the information posted by others and therefore addressing another user directly. Example 5.48c instantiates a reply in which the research group thanks an individual user for her help in the first part of the tweet and finishes by explicitly praising her for the 'presence' and 'contribution'.

EXAMPLE 5.48a
IRP14
Tweet 11

EXAMPLE 5.48b
IRP08
Tweet 21

EXAMPLE 5.48c
IRP19
Tweet 8



[INT06] "Hooking the audience" is employed by research groups when they seek to attract the readers' attention, leading them to notice relevant information and maintain a sustained interest or persuading them to take a course of action. [INT06] works as a clue for users to be alert on the content coming after this strategy and serves to catch users' eye in the scanning of information about the project, among the tremendous amount of data that they may encounter when navigating through the web or the Twitter feed. This pragmatic strategy provides research groups with the possibility of directing their stance to guarantee that readers recognise their main points, making rich and nuanced comments for that purpose in similar ways as other evaluative constructions do (Hyland and Tse 2005). The intention behind the strategy is usually subordinated to other further-reaching strategies like spreading the new pieces of output published by the research team [PRO05], circulating information about events organised by the project [INF03] or emphasising the need to engage users in some project-related tasks and activities [INT02]. As a consequence, it tends to be deployed through verbally straightforward and visually enticing formulations that can be easily identified by users, and is then instantiated through formulaic expressions, fixed collocations, orthotypographic conventions, evaluative language and multimodal resources.

In RPWs, [INT06] is usually found in the *Homepage* as triggers to drive users through different sections and access content about the project. Verbal mechanisms are favoured in the website, and the layout of the web pages is leveraged to include spacing and framing elements that may make the strategy more prominent to readers. It also features *News & Events* section, mostly through the headlines of the posts by which research groups feed the list of updates about their research (see Example 5.49 where the phrase 'Save the date!' is used).

Save the date! Joint PROMOTioN & MIGRATE Workshop - 28 February 2019, Berlin

Dear Sir or Madam,

maintaining security of supply whilst integrating large quantities of renewable energy is the main challenge for the future European power grid. System stability and reliability are therefore of the utmost importance. The two EU funded projects MIGRATE and PROMOTioN are investigating these future challenges to power grids, both on- and offshore, and provide solutions and recommendations on how to shape the energy future of Europe.

The PROMOTioN and MIGRATE consortia invite you to **save the date** for their first joint workshop

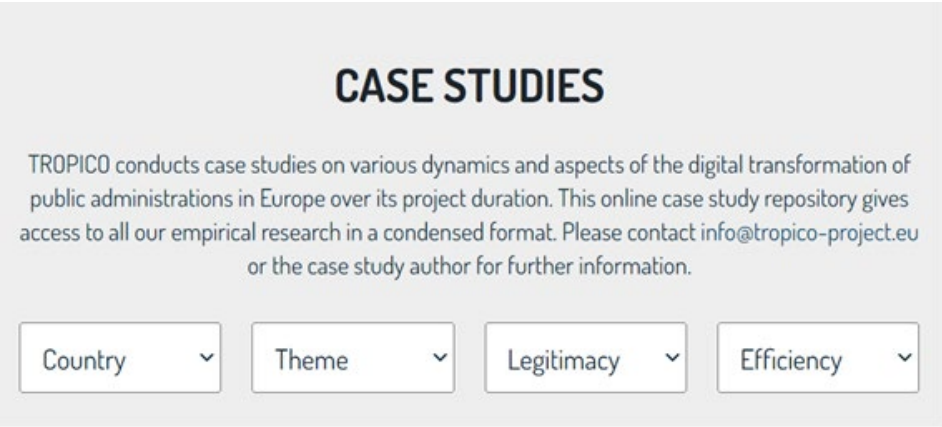
EXAMPLE 5.49 – IRP25 – *News & Events*

In Twitter, there is a tendency to include this interactional pragmatic strategy mostly at the beginning of tweets, precisely to arouse the audience's interest and ease their processing. Yet, it is also likely to occur at the end of tweets as a kind of closure (considering the beginning and end of tweets as the two essential spotlights for users). Although the correlation between this strategy and the interactivity of the tweet is difficult to measure, research groups seem to aim at receiving feedback from users through these 'hooks', either by responses or by retweets, likes and shares. It is recurrently realised by exclamations, full capitalisation of words, and emojis and GIFs to boost the effect of getting the attention of diverse publics. This is evidenced in Example 5.50, where the tweet begins by posing a question that is closed with the repetition of question marks,

and is followed by a concatenation of directives and the insertion of ellipsis points and exclamation marks that may altogether attract the attention of users.

EXAMPLE 5.50 – IRP14 – Tweet 96

[INT07] "Offering contacts for information" provides practical information about how to get in contact with members of the research group developing the project. It is an interactional strategy therefore geared towards the establishment of direct, bilateral relationships, especially for the most interested –and probably specialised– readers, who want to discover more about the project or participate in it. Normally, there is a section in RPWs devoted to this function under the name *Contact*. The technical affordances of the websites enable research group members to choose how to offer this information, typically through a list of personal data and pictures of the people to contact, or through a form to be fulfilled –mimicking an e-mail box. The strategy may also be inserted purposefully in relation to particular web sections, such as the ones referring to *Work Packages*. Example 5.51 corresponds to one such section, coined by the research project as *Case Studies*, where users have a great deal of interactive options to select the case study, and this is preceded by the introduction of contact information through the institutional e-mail of the project.

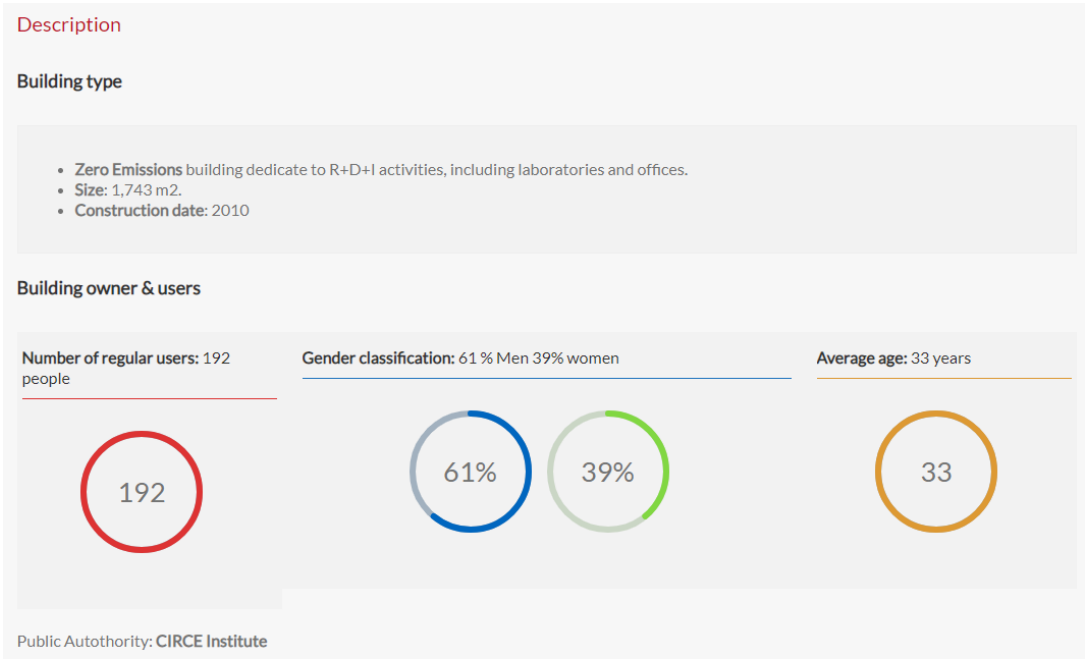


EXAMPLE 5.51 – IRP19 – *Work Packages*

[INT07] is less frequent in Twitter, where users want to know the latest information about the project and can access the website, if wished, from the Twitter account profile. However, at certain points it can be beneficial to use the strategy in a thread of tweets when discussing with other users or when the work of the project is compartmentalised and specific project members should be directly reached. In Example 5.52, contact information is circulated in the event users want to register for a conference.

EXAMPLE 5.52 – IRP10 – Tweet 16

The last strategy within the interactional macrocategory is labelled as **[INT08] “Making information visually salient”** and refers to the conscious attempt made by research groups to provide prominence to specific parts of the texts published within their RPWs. There is a clear intention to highlight pieces of information over others, so that the readership may at first glance identify and more easily process the key points made in the texts they are consuming. Additionally, the strategy is utilised for an attractive organisation of the digital content, especially in the case of websites, which allow for more possibilities regarding layout and structure than SNSs, where fixed templates are provided for users. The meaning-making mechanisms enabled by typographic choices (Stöckl 2005, 2014) are recurrent in maximising the effect of the strategy, as will be explored in Subsection 5.2.4, where the *Homepage* is multimodally analysed. The fact that information is presented in bold, in italics, in different colours, capitalised or underlined lets readers know that there is an intention there on the part of the authors of the text. In the context of research projects, this strategy is many times aimed at facilitating the understanding of specialised knowledge, so that visual attention is directed to parts of the text where the cognitive load required would be lessened. In general, this interactional strategy also brings along an emotional component in the transmission of information, by which research groups try to bridge the gap with their expected, or intended, readers and provide a more reader-friendly route for the navigation of project content. In RPWs, making information visually salient cuts across all the web sections. Example 5.53 exhibits how information about the WPs of a project is made salient, among other resources, through the use of headings (in red colour and bold font), a list of bullet points, and visual items encapsulating relevant numbers.



EXAMPLE 5.53 – IRP10 – *Work Packages*

In Twitter, typographic resources concerning font to make tweets more dialogic and engaging are feasible (see Example 5.54a), but not regularly maximised. Information is more often made salient by resorting to full capitalisation and reiteration of punctuation marks (see Example 5.54b). In addition, the case of emojis stands out[23] –see a definition in Subsection 2.4.1 above. In Example 5.54c, we can see four different emojis standing for the European Union, a video camera, a thumb up (symbolising the affordance of liking) and an arrow (introducing an external hyperlink), which in the end convey the most meaningful information intended by the research group and instantiated in the tweet.

EXAMPLE 5.54a
IRP02
Tweet 133

EXAMPLE 5.54b
IRP14
Tweet 13

[23] The activation of affordances in tweets, such as hashtagging and mentioning, has not been taken into consideration as the enactment of [INT08] "Making information visually salient", since they are systematically presented in blue colour and, thus, do not entail *per se* research groups' intents.

EXAMPLE 5.54c
IRP02
Tweet 16

By way of summary, the first section within Chapter 5 has revolved around the presentation of pragmatic strategies as the analytical asset for the study of the communication of IRPs in websites and Twitter accounts. The typology of prominent pragmatic strategies has been represented in a taxonomy that touches upon specific theoretical tenets and methodological processes, as explained in Section 2.3 and Section 3.2 above. Such tenets and processes underline the empirical nature and the cyclical revisitation of the analytical tool, in an attempt to capture the intentions of research groups following a data-driven procedure. Three macrocategories have been singled out as overriding pragmatic forces that encompass a set of particular pragmatic strategies. In total, 27 strategies have been found from the corpus evidence to epitomise how all kinds of information around research projects are spread out. Tailored definitions have been provided for each of the strategies and illustrative examples from the EUROPRO Digital Corpus have been discussed in relation to the two objects of study, the RPWs –and their specific sections– and the tweets published in the accounts managed for these projects.

In the next subsections, findings on the use of the data-driven strategies discussed above are provided for the most prominent web sections in RPWs –*About, Partners* and *News & Events* (Section 5.2). A specific analysis is proposed for the *Homepage* section combining the pragmatic analysis with a multimodal standpoint, given the prominence of the visual mode (Subsection 5.2.4). The use of the strategies is finally presented in the Twitter accounts devoted to research projects (Section 5.3). Altogether, the analysis intends to identify salient patterns and their prototypical distribution, attending to various communicative purposes, in different digital texts produced by research groups for their IRPs.

5.2. Pragmatic strategies in the sections of research project websites

After presenting the taxonomy of pragmatic strategies derived from the data-driven study of the EUROPRO Digital Corpus, the use of the different informative, promotional and interactional pragmatic strategies is explored in the most prominent sections within research project websites, which were conceptualised in Chapter 4.

If we take a look at the general results stemming from the codification and analysis of pragmatic strategies in the whole EUROPROwebs Corpus, insightful findings can be obtained. A first point of interest lies in the overall distribution of the three macrocategories of pragmatic strategies identified across research project websites. This is visually represented in Figure 5.2 below. As can be observed, the frequency of the three macrocategories differs according to the web sections researched. Regarding the whole EUROPROwebs Corpus, the informative macrocategory is the most frequent one (38%), followed by the promotional one (33%) and the interactional one (30%); yet, they show a fairly similar distribution.

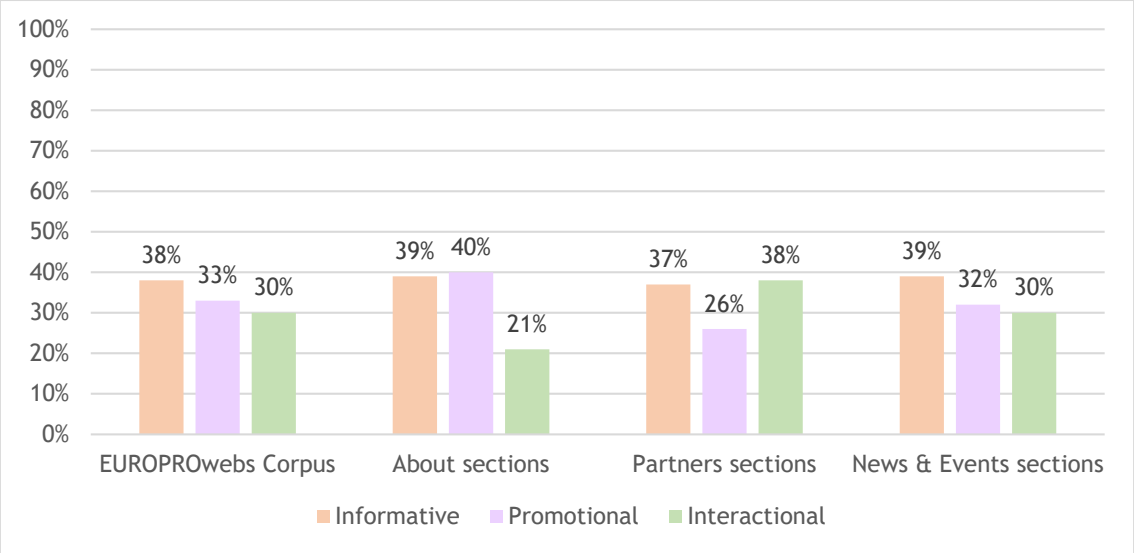


FIGURE 5.2. Distribution of informative, promotional and interactional macrocategories of pragmatic strategies in the sections of the EUROPROwebs Corpus.

When comparing the web sections, these percentages are further disclosed, enabling to unveil the particular saliency of some macrocategories over others. Surprisingly enough, in the case of the *About* section –whose communicative purpose is the presentation of the Horizon2020 projects and their characteristics–, the macrocategory of promotional pragmatic strategies is as prominent as the informative one (40% vs. 39%, respectively). Then, the interactional set of strategies clearly comes in third place (21%), signalling that strategies to reach diversified audiences are not the primary focus of this research project web section, whereas informativity and promotion come to the fore. The analysis of the *Partners* section exhibits a different scenario. To introduce the team of researchers, the interactional macrocategory (38%), closely followed by the informative macrocategory (37%), outnumbers the promotional one, which is the least common (26%). Thus, attempts to establish bridges with users are made, this web section showing a high degree of 'interactive sites for action' (Adami 2015). Finally, the distribution of macrocategories in *News & Events* points out at a slightly higher frequency of use of informative strategies (39%) than promotional (32%) and interactional (30%) ones. This implies that posts in such web section cover research groups' all three overriding intentions, but that informativity is at the core of these texts, contributing to overcoming 'knowledge asymmetries' (Engberg and Maier 2015b) among the researchers and their audience. All these findings taken together, the use

of the macrostrategy of informative pragmatic strategies is observed to be quite homogeneous across the three web sections scrutinised, whereas the promotional and interactional macrocategories display bigger dissimilarities in terms of frequency.

The distribution of each of the pragmatic strategies was also looked into in the three web sections analysed. The number of files containing each of the 27 pragmatic strategies was itemised in order to see possible variations in the recurrent appearance of the pragmatic strategies (as can be checked in Appendix II). The *About* section presents a wider variability in the deployment of pragmatic strategies, reflected in low, medium and high percentages of occurrences in their use. No strategy occurs in all the web sections analysed, but only five of them appear in less than 20% of the sample scrutinised. This may show a more ample spectrum of pragmatic strategies fitting in this section than in the two other ones. The *Partners* section displays a different trend. A polarised use of the pragmatic strategies can be observed, in which the pragmatic strategies that are pertinent to this web section score high frequencies (over 70%) and the strategies that are overlooked mostly score percentages lower than 30% –4 strategies are indeed completely absent in the corpus sample. Finally, the *News & Events* section points at a pattern in which the majority of pragmatic strategies in the taxonomy are leveraged, with 7 strategies occurring in all the RPW instances analysed and only 2 strategies with an occurrence lower than 75%.

A next stage in the analysis entailed retrieving the overall findings on the frequency of each strategy per web section, which is summarised in Table 5.4. Percentages of use were calculated out of the total occurrences coded to separately observe the relative prominence of the 27 data-driven pragmatic strategies within the *About* section, the *Partners* section and the *News & Events* section. Interesting trends are identified as follows.

In the case of the *About* section, where there is an even distribution of informative and promotional pragmatic strategies (388 occurrences coded in both cases), a close set of pragmatic strategies appear to prevail in each macrocategory. Salient promotional strategies include [PRO01] "Stating the benefits and impact of research", [PRO06] "Emphasising the quality and novelty of outreach", as well as [PRO02] "Underlining relevance and value through figures". In turn, salient informative ones encompass [INF01] "Informing about the aim of the research", [INF09] "Enumerating research- and topic-oriented elements" and also [INF08] "Clarifying technical and scientific terms". After those, no big differences are found in the instantiation of other strategies within these macrocategories, such as [PRO03] "Hyping expected data and accomplishments", [INF04] "Reporting on research procedure", [INF02] "Stating general background of the project", [INF10] "Acknowledging research funding" and [PRO07] "Acknowledging external or self-praise". Strategies that touch upon the productivity of the project in terms of participations at events and publications of outlets are not exploited in these texts. Eventually, interactional pragmatic strategies seem to be the least deployed ones within *About* sections, except for [INT08] "Making information visually salient", which is indeed one of the most frequent ones. Interactional strategies seldom used in the introduction of the project mission comprise [INT02] "Engaging the audience to participate in the project", [INT04] "Fostering networks", [INT05] "Praising and thanking others", [INT06] "Hooking the audience" and [INT07] "Offering contacts for information".

Pragmatic strategies		***About* sections**		***Partners* sections**		***News & Events* sections**	
		Occurrences	Frequency	Occurrences	Frequency	Occurrences	Frequency
INF01	Informing about the aim of the research	89	9%	134	5%	113	3%
INF02	Stating general background of the project	39	4%	4	0%	87	2%
INF03	Giving specific details about an event	4	0%	2	0%	262	7%
INF04	Reporting on research procedure	46	5%	30	1%	67	2%
INF05	Disclosing information about researchers	19	2%	401	14%	173	5%
INF06	Presenting the content of outreach	4	0%	0	0%	164	4%
INF07	Explaining audiovisual elements	20	2%	17	1%	58	2%
INF08	Clarifying technical and scientific terms	66	7%	133	5%	160	4%
INF09	Enumerating research- and topic-oriented elements	71	7%	302	10%	264	7%
INF10	Acknowledging research funding	30	3%	42	1%	110	3%
PRO01	Stating the benefits and impact of project research	116	12%	1	0%	135	4%
PRO02	Underlining relevance and value through figures	69	7%	246	8%	195	5%
PRO03	Hyping expected data and accomplishments	47	5%	13	0%	108	3%
PRO04	Highlighting members' contribution to the project	20	2%	251	9%	187	5%
PRO05	Spreading a piece of output	1	0%	0	0%	37	1%
PRO06	Emphasising the quality and novelty of outreach	90	9%	56	2%	128	3%
PRO07	Acknowledging external or self-praise	30	3%	177	6%	142	4%
PRO08	Accounting for project productivity	13	1%	0	0%	184	5%
PRO09	Claiming a project milestone	2	0%	0	0%	83	2%
INT01	Guiding the audience to perform an action	33	3%	352	12%	283	7%
INT02	Engaging the audience to participate in the project	10	1%	2	0%	87	2%
INT03	Inviting the audience to consume research project output	15	2%	1	0%	118	3%
INT04	Fostering networks	13	1%	35	1%	111	3%
INT05	Praising and thanking others	2	0%	2	0%	82	2%
INT06	Hooking the audience	12	1%	3	0%	92	2%
INT07	Offering contacts for information	8	1%	131	4%	38	1%
INT08	Making information visually salient	118	12%	580	20%	325	9%
TOTAL		**987**	**100%**	**2915**	**100%**	**3793**	**100%**

TABLE 5.4. General frequency of use of pragmatic strategies in the EUROPROwebs Corpus.

Attending to the frequency scored, the five most prominent pragmatic strategies within the taxonomy in the *About* section of RPWs are:

- [INT08] Making information visually salient (12%) – interactional
- [PRO01] Stating the benefits and impact of the project (12%) – promotional
- [PPRO06] Emphasising the quality and novelty of outreach (9%) – promotional
- [INF01] Informing about the aim of the research (9%) – informative
- [INF09] Enumerating research- and topic-oriented elements – informative / [PRO02] Underlining the relevance and value through figures – promotional / [INF08] Clarifying technical and scientific terms – informative (7% each)

In spite of not being the most frequent strategy, [INF01] "Informing about the aim of the research" (9%) openly embodies the main communicative purpose pursued by research groups in the *About* section of their project websites. In its deployment there is a preference for the verbal mode to convey the main goals and characteristics of projects, only sometimes supported by explanatory icons and low modality pictures portraying abstracts concepts. However, typographic resources are indispensable in the organisation of all this information, what makes [INT08] "Making information visually salient" the strategy employed most times (12%). Blocks of information contributing together to explicating the research goals are separated by headings like 'Mission', 'Overview', 'Objectives', 'Methodology', 'Impact', 'Challenges' or 'Ambition', *inter alia*. Within these blocks, bold font is constantly used to render the key facts and details about the research aims obvious to readers. Sequences of elements, numerical references and purposeful definitions are inserted through the texts to address both specialised and lay users. This results in a striking balance between being sufficiently explanatory and boosting the project self-image. The combination of sequences, numbers and explanations, references and definitions is respectively portrayed by [INF09], [PRO02] and [INF08].

Although not included in the top 5 pragmatic strategies, special attention should be paid to [INF10] "Acknowledging research funding", since its instantiation is particularly distinct from the rest of strategies in the *About* section. Although its frequency is comparatively low, it is one of the fundamental strategies to these webpages. What in principle may seem contradictory needs to be understood as a very intentional deployment, in which the strategy is not redundant throughout the text –what may happen in other cases–, but is allocated a singular position to bolster its relevance. In the end, one of the main communicative purposes of the research groups is to account for the public expenditure received –as shown in Table 4.1 about the functions of RPWs, supported by informants' comments.

Concerning the *Partners* section, it is observable how the range of pragmatic strategies is somehow more limited and how some specific strategies together amount to the majority of occurrences. There seems to be a high level of homogeneity in this digital practice, which results in research groups' consistent ways to present content and render their intentions visible. Accordingly, the set of pragmatic strategies instantiated in the *Partners* section is more narrow

and some strategies find no place within this project website section. This is the case of strategies related to the output and outreach of the research group (e.g. [INF06] "Presenting the content of outreach"; [PRO05] "Spreading a piece of output"; [INT03] "Inviting the audience to consume research project output"). Likewise, strategies to underline the activities organised by the research group and the events where the project is involved are barely deployed in a section where the focus is on the detailed presentation of the research members (e.g. [INF03] "Giving specific details about an event"; [PRO08]; "Accounting for project productivity"; [PRO09] "Claiming a project milestone"). These findings are also applicable to a very high extent to the *About* section presented above (see Table 5.4). Finally, there is also a clear tendency to favour a unidirectional type of interaction with readers in this section, what may explain why interactional pragmatic strategies like [INT02] "Engaging the audience to participate in the project", [INT05] "Praising and thanking others", and [INT06] "Hooking the audience" are barely found in the corpus.

In contrast, as stated above, a close set of pragmatic strategies predominates in the conveyance of pragmatic intention within the *Partners* section of RPWs, including:

- [INT08] Making information visually salient (20%) – interactional
- [INF05] Disclosing information about researchers (14%) – informative
- [INT01] Guiding the audience to perform an action (12%) – interactional
- [INF09] Enumerating research- and topic-oriented elements (10%) – informative
- [PRO04] Highlighting members' contribution to the project (9%) – promotional

Structuring the information about the research team by making use of organisational and visual elements seems to be key in how research groups design the *Partners* section. In connection with [INT08] "Making information visually salient", typographic resources such as colour and bold font help increase the visual appeal of the section, and partners' logos are also foregrounded next to verbal descriptions. Headings are also normally employed to split the content and introduce the partners' background and their role within the project. This is the reason why [INF05] "Disclosing information about researchers" and [PRO04] "Highlighting members' contribution to the project", are among the top five most frequent strategies in *Partners* section (in second and fifth position, respectively) and usually cut across this webpage pinpointing research groups' primary intentions. Another interactional pragmatic strategy appears among the most prominent strategies: [INT01] "Guiding the audience to perform an action". Its occurrence is mostly related to the interactivity enabled in this webpage, encapsulated in a series of sites for action (Adami 2015) that may drive users' navigating mode. The menu of *Partners* sections tends to include buttons to access inner pages where individual profiles of the members are crafted, as well as unfolding boxes which provide a general overview of the countries and institutions of the partners and open hidden pieces of texts when users activate them. The individual pages for project partners also guide users to take a course of action. These normally comprise hyperlinks to offer access to the external websites of the partners' institutions, to e-mail addresses of individual researchers or to other project-hosted webpages connected with a specific partner, like the *Work Packages* section to see the duties of a partner and the *Publications* or *Outreach* sections

to refer to the output produced by a partner or a researcher. Finally, [INF09] "Enumerating research- and topic-oriented elements" functions as a supporting informative strategy for the deployment of [INF05] "Disclosing information about researchers" and [PRO04] "Highlighting members' contribution to the project". The concatenation of elements serves not only to justify the expertise and trajectory of the project members, contributing to disclosing information about them, but also to provide evidence of their value and relevance within the project consortia, foregrounding how they will help develop the project. Such enumerations systematically touch upon research areas, societal sectors, methodological approaches and countries involved and among others.

With respect to the *News & Events* section, all the pragmatic strategies identified in the taxonomy are present to some extent in this genre. This may be due to the narrative and descriptive nature of the information published and, consequently, to the fact that these texts are longer as compared to the previous sections analysed. Nonetheless, some strategies display an unexpectedly low occurrence in the EUROPROwebs Corpus, such as [INF02] "Stating general background of the project" (2%) and [PRO05] "Spreading a piece of output" (1%). Both of them were expected to be more prominent in the posts containing the project news and events, insofar as this generic practice seems to be the place to expand the knowledge about the project in relation to particular activities and share breaking updates about researchers' disciplinary field, as well as to circulate the release of new publications and materials, remarking their content and implications. As for the scarce deployment of [INF02], research group maintaining a *Blog* as part of their RPWs seem to cover these aspects in that section. As for the low occurrence of [PRO05], pieces of output have been found to be announced and distributed much more prominently through Twitter (see analysis in Section 5.3).

Research groups' most salient intentions seem to be instantiated in the *News & Events* section of their RPWs in the deployment of the following pragmatic strategies to get across and appeal users:

- [INT08] Making information visually salient (9%) – interactional
- [INT01] Guiding the audience to perform an action (7%) – interactional
- [INF09] Enumerating research- and topic-oriented elements (7%) – informative
- [INF03] Giving specific details about an event (7%) – informative
- [PRO02] Underlining relevance and value through figures (5%) – promotional

As in *Partners* sections, yet with a fairly lower percentage, [INT08] "Making information visually salient" tops the list, since research groups take advantage especially of typographic resources in the texts within the *News & Events* section to influence users' reading mode. Such resources lie in the use of borders, colours and italics in the first paragraph of the post, which parallels the summarising function of subheadings in newspapers, as well as the purposeful addition of bold font and headings to invite users to pay attention to some parts of the post over others and to see at a glance the general structure of the text. [INT01] "Guiding the audience to

perform an action" is in this digital practice mostly related to the use of directives (in the form of imperatives), therefore showing a more explicit locutionary force than in the case of *Partners* sections, in which implicit cues are rather embedded. Phraseological expressions such as 'Show all news', 'Click here', 'Read more', 'Back to list', 'Previous/Next posts' and 'Subscribe to our newsletter' permeate the general webpage devoted to the news or events of research projects. In the individual posts, hyperlinks, both as URLs and as hypertext, provide users with further alternatives within and outside the project website to continue navigating. Two informative pragmatic strategies are the third and fourth most frequently deployed strategies. Whereas "Enumerating research- and topic-oriented elements" fulfils a general function to add explanation and/or detail to the narration of the post (as will be argued in Subsection 5.2.3), [INF03] "Giving specific details about an event" is undoubtedly central to the communicative purpose of the *News & Events* section. Research groups' intention is then to show to the wide public the efforts invested in participating at events, and also to spread out information about other events of interest for the project and its (imagined) audience. The only promotional strategy that is included in the top five most frequent strategies in this overview of the *News & Events* section is [PRO02] "Underlining relevance and value through figures". This is deployed by research groups to *measure* the impact of their research and make it available both for the scientific community and for societal spheres, remarking the benefits of the project through standards and calculations. In this sense, it performs a complementary function to other more overriding pragmatic strategies, and is therefore not normally the main intention behind a *News & Events* post.

As follows, specific results are shown for each of the research project section analysed in close detail. To meet that end, functions are looked into per macrocategory of pragmatic strategies, and discussion is provided for the top three most common ones for space limit reasons. Subsection 5.2.1 will reveal the findings for the *About* section, Subsection 5.2.2 for the *Partners* section, and Subsection 5.2.3 for the *News & Events* section.

5.2.1. The *About* section

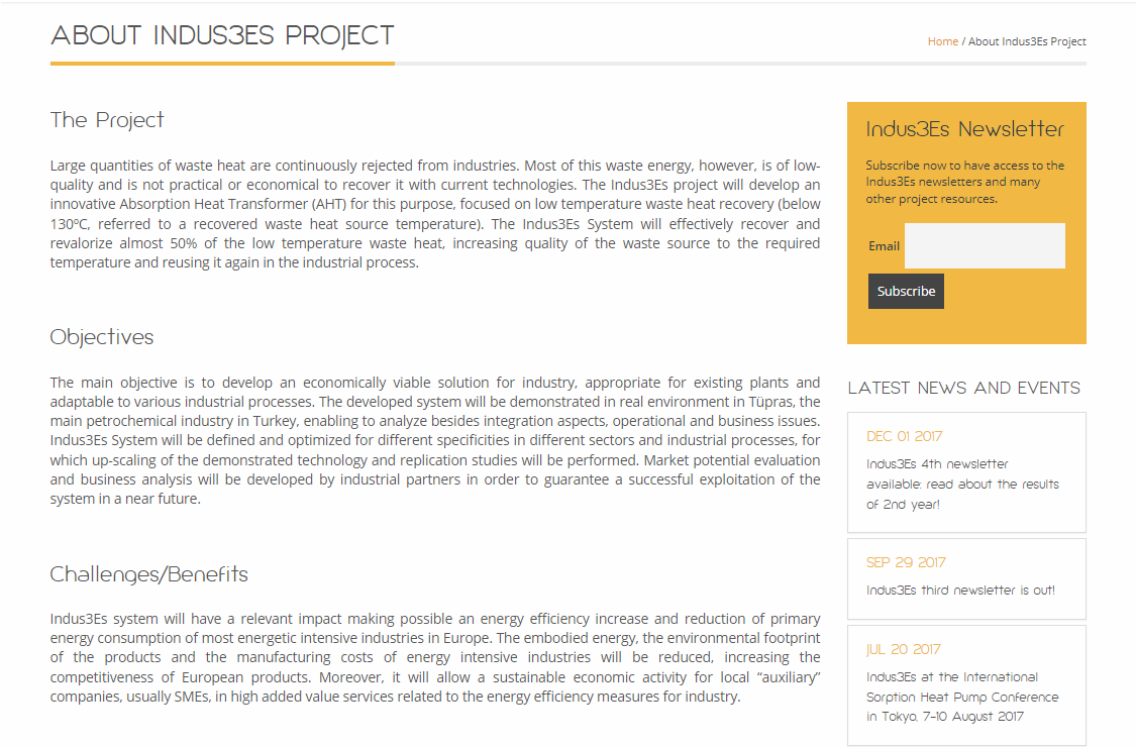
One of the most systematic web sections within RPWs is the *About* section, where the rationale of the project is communicated and explanatory evidence of the research to be conducted is put forward. Looking into the *About* sections of the EUROPROwebs Corpus, only one international research project did not host a particular place within the website for this endeavour (IRP19). Even when a label is introduced in the menu of such RPW ('About Tropico'), no webpage can be accessed, but only a menu unfolds with three further options: 'Our Research', 'Our Team' and 'Events'. In a way, then, this label is just a gateway for users to navigate through more specific web sections, which correspond, respectively, to *Work Packages, Partners* and *News & Events* sections –as have been conceptualised in Chapter 4. The resulting sample for the pragmatic analysis is of 29 *About* sections.

The verbal mode prevails in these texts, and provides the instantiation of the research groups' communicative purposes. However, visuals may sometimes may contribute to making

information disseminated about the investigation more organised and appealing for users. A question in the semi-structured interviews dealt with the likely use of multimodal elements within RPWs. One of the informants notably claimed that graphic elements (icons, images, tables, videos) were fruitful in the web sections that are not very dynamic, such as the *About* section:

> Sobre todo, en las partes estáticas es efectivo, porque muchas veces ayuda en la explicación de las actividades que se pretenden hacer o los objetivos del proyecto, o los logos de los socios y cosas así.
>
> [Overall, they are effective in the static parts, because it many times helps in the explanation of the activities that are planned or the objectives of the project, and the logos of the partners, and things like these.]
>
> (Informant 8 – IRP10)[24]

More prominent is the use of headings to structure these sections, alongside typography to underline key details intended by the research group. Example 5.55 evidences this resource in an *About* section where three main blocks of information purport to build the text and catch users' attention: 'The Project', 'Objectives' and 'Challenges/Benefits'.



EXAMPLE 5.55 – IRP24 – *About*

As detailed in Subsection 4.2.1, *About* sections are likely the most prominent webpage where information about the nature and purpose of the project is communicated. It usually occupies the first tag in the website menu, after *Homepage,* if there exists an explicit tag driving

[24] Excerpts from the semi-structured interviews (see the protocol in Appendix V) will be offered throughout the present chapter to complement the analysis of pragmatic strategies with the contextual data provided by informants –as was done in Chapter 4.

to it. Accordingly, findings of the pragmatic strategies encompassed in the self-designed data-driven taxonomy are first unveiled in this section.

Informative pragmatic strategies

In the informative macrocategory –as Table 5.5 below shows– [INF01] "Informing about the aim of the research" (23%) is the pragmatic strategy with the highest occurrence, evidencing research group's intention to claim the mission of their investigation. This is followed by [INF09] "Enumerating research- and topic-oriented elements (18%) and [INF08] "Clarifying technical and scientific terms" (17%), which display very similar frequencies of use. Subsidiary strategies that tend to be framed within primary ones comprise [INF04] "Reporting on research procedure" (12%), [INF02] "Stating general background of the project" (10%), and [INF10] "Acknowledging research funding" (8%). Research groups' efforts to include graphical and visual resources to complement the verbally-based texts are not very prominent in the *About* sections, thus the low frequency of [INF07] "Explaining audiovisual elements" (5%). Strategies that are not pertinent to the introduction of the project encompass [INF03] "Giving specific details about an event" and [INF06] "Presenting the content of outreach" (scoring both 1%). Thus, information about the activities and outcomes of the research project does not seem to suit the intentions encoded in this webpage.

Informative pragmatic strategies	**Occurrences**	**Frequency**
[INF01] Informing about the aim of the research	89	23%
[INF02] Stating general background of the project	39	10%
[INF03] Giving specific details about an event	4	1%
[INF04] Reporting on research procedure	46	12%
[INF05] Disclosing information about researchers	19	5%
[INF06] Presenting the content of outreach	4	1%
[INF07] Explaining audiovisual elements	20	5%
[INF08] Clarifying technical and scientific terms	66	17%
[INF09] Enumerating research- and topic-oriented elements	71	18%
[INF10] Acknowledging research funding	30	8%
TOTAL	**388**	**100%**

TABLE 5.5. Relative frequency of pragmatic strategies within the informative macrocategory in the *About* section.

The most representative informative pragmatic strategy in *About* sections has been found to be **[INF01] "Informing about the aim of the research"** (23%). It seems logical that research groups frequently state the purpose of their joint investigation and that they devote a central space in their project website to do so. The discursive resources to ponder research goals are varied depending on the research groups' own choices and on the topic of the project. Example 5.56 elucidates the deployment of [INF01] and evidences the verbal load that predominates in its realisation. It is noticeable that, after spelling out the project acronym and inserting the project

motto in italics, [INF10] "Acknowledging research funding" is interspersed in the conveyance of the project aims, highlighting the duration and the financing granted. In fulfilling research groups' primary informative intention, a lot of evaluative language is employed as well[25]. This is captured in the use of adverbs like 'more' and 'less' alongside positive adjectives ('sustainable', 'efficient', 'competitive', 'integrated', 'interconnected') and a negative one ('dependent'). After the first paragraph, the objective of the research project is broken down into three goals conveyed in a more straightforward style. It could be said that, while the research aims are stated the first time in a more general, abstract –and even ambitious– way, in this second case the visual organisation, the enumeration and the specific formulations combine to state a more thorough idea of what the project is about. Evaluative words are also included here ('innovative', 'negative', 'effective').

> CIRC-PACK (*Towards circular economy in the plastic packaging value chain*) is a three-year EU-funded project that aims to develop a more sustainable, efficient, competitive, less fossil fuel dependent, integrated and interconnected plastic value chain.
>
> To this end, the consortium will work in the following three areas with three demo cases:
>
> 1. decoupling the chain from fossil feedstock;
> 2. introducing innovative formats and reducing the negative environmental impact of plastic packaging; and
> 3. creating an effective after-use plastics economy.

EXAMPLE 5.56 – IRP03 – *About*

Example 5.57 depicts an analogous case where [INF01] is the overriding strategy in the text of the *About* section. Discursively, two headings are included to arrange the goals of the research twice, as happened in the previous example. Under 'Overall aim' the summarised purpose of the project is included, but with a less remarkable presence of evaluative language, apart from 'key'. Under the 'Specific objectives' three noun phrases are concatenated and sequenced through the use of bullet points to make it clear to users what the project will attempt to do. The placement of information may be very telling in this instance, since the more specific objectives have been located at the end of the *About* section, probably because they are targeted at specialised readers –hence the technical language employed–, and it will be mostly them the ones who scroll down to learn more about the project.

[25] Yet, the use of evaluative language does not imply that the strategy is inherently promotional, as explained in Section 5.1 above. Evaluation cuts across the pragmatic macrocategories identified and, although it plays a fundamental role in the deployment of promotional strategies, it has the potential of being equally entrenched in informative and interactional ones.

Overall aim

COSMIC is a key instrument for supporting and training the chemical process industry – and in particular the fine chemicals and pharmaceuticals industries – in their transition from batch to continuous production.

[…]

COSMIC's specific objectives

COSMIC's science and technology objectives are to develop:

- Resource-efficient multiphase reactions in the fields of organic synthesis (C–H, C=C and C≡C bond activation) and nanoparticle synthesis (for use in catalysis and health applications);
- Intensified reactors that efficiently integrate milliflow technology with ultrasound and/or microwave actuation;
- Knowledge-based assessment and decision methodologies to evaluate and select process-intensification technologies.

EXAMPLE 5.57 – IRP04 – *About*[26]

Despite the technical idiosyncrasy required to explain the mission of the project, attempts are made when employing the strategy [INF01] "Informing about the aim of the research", in order to ease the processing of such information for users. As drawn from the interviews data, a 'strategy' concurred in the research consortium, and which perfectly fits in the *About* sections under study, seems to concern the explanation of the specific goals of their large-scale investigation in ways that are available and affordable to diversified audiences:

> Intentar comunicar los objetivos y resultados del proyecto de manera concisa y sencilla. Intentar traducir el lenguaje más académico a un lenguaje más coloquial, porque al final la web es para que la lea cualquier persona, ¿no? No sólo gente del mundo de los proyectos europeos. Entonces preferimos textos cortos, sencillos e intentando que el mensaje quede claro, pese a la dificultad del tema.
>
> [To try to communicative the objectives and results of the project in a concise and simple way. To try to translate the rather academic language into a more colloquial language, because in the end the web is for anyone to read, isn't it? Not only people from the sphere of European projects. Then, we prefer short, simple texts attempting at the message remaining clear, despite the difficulty of the topic.]
>
> (Informant 8 – IRP10)

The second most frequent informative strategy in this webpage is **[INF09] "Enumerating research- and topic-oriented elements"** (18%). To foster the informativity of their *About* sections, research group intentionally include sequences of items that may enlighten the main concepts under discussion. Typically, the use of [INF09] is associated with the use of [INF01], discussed above. As Example 5.58 shows, [INF09] is sometimes instantiated as an aside to illustrate surrounding statements, but not to interrupt the flow of information. This is mostly carried out by using parentheses and dashes and frequently, but optionally, starting with discourse

[26] Some parts of the web sections may have been elided, due to their length and for the sake of illustration, in order to more efficiently frame the exemplification of the pragmatic strategies under discussion. In the present snapshots and in examples henceforth, this has been signalled by the insertion of brackets.

markers (exemplifiers and reformulators), such as 'including' (or 'incl.' in the example), 'featuring', 'for example', 'i.e.', 'e.g.', 'like' and 'such as'. At other times, the enumeration is given more prominence and made visible to users. In the case of this project, which revolves around the production of energy out of biomass, the focus of the investigation is narrowed down to explicating the accepted and rejected resources they work with.

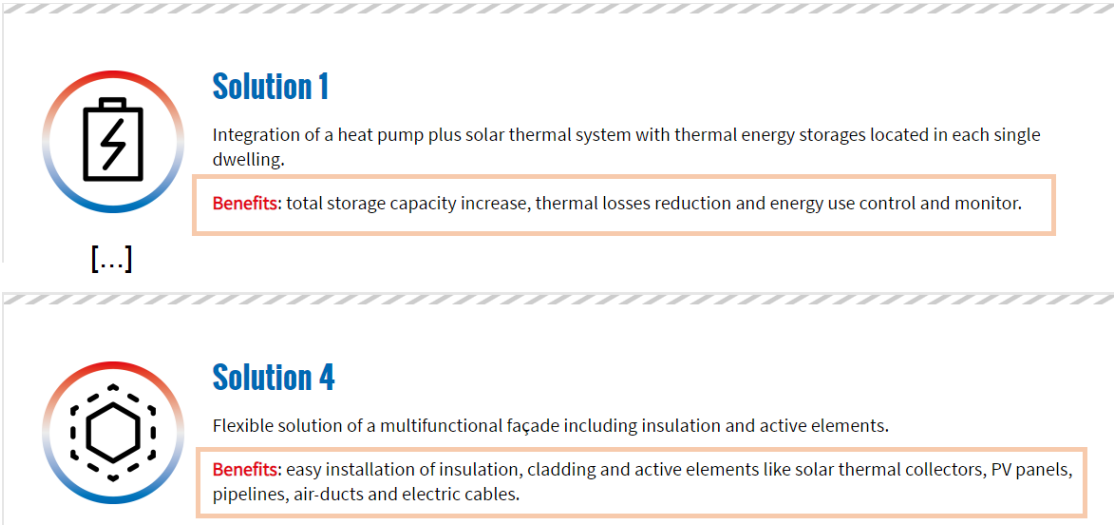
Focus

Woody and herbaceous biomass feedstock only from landscape conservation (incl. fields and forests) and maintenance work (LCMW) carried out in the public interest, like biomass from:

- roadsides,
- watercourses and power lines,
- areas like parks, cemeteries and other recreation areas as well as from nature reserves but also from private gardens,
- no residues from plantations and residues from harvesting an economically viable product, unless such plantations have the purpose of or add to landscape conservation and maintenance works.

EXAMPLE 5.58 – IRP09 – *About*

On other occasions, [INF09] can be leveraged to contribute to promotional purposes. Illustration of this is offered in Example 5.59, where the informative strategy is concisely included and independently framed to indicate the 'Benefits' of the project, therefore fulfilling the force of [PRO01] "Stating the benefits and impact of the project", which will be addressed below. In fact, in 'Solution 4' another enumeration is noticeably used, in order to clearly specify the sort of 'solar thermal collectors' involved.



EXAMPLE 5.59 – IRP02 – *About*

[INF08] "Clarifying technical and scientific terms" was the third most salient informative pragmatic strategy in the web section under analysis (17%). The reason to deploy it recurrently throughout the explanation of the project rationales lies in research groups' awareness

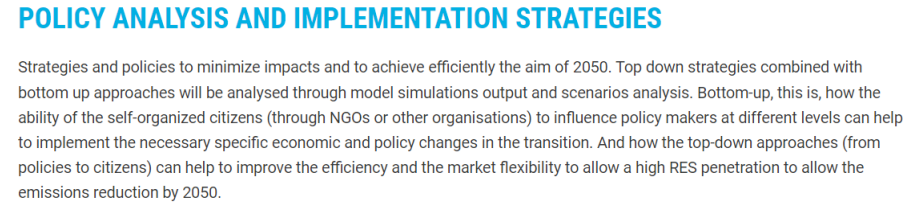
that their imagined audience may include non-specialised readers, and that technical concepts from their disciplinary background require a clear exposition, so that the ultimate intention, which is encapsulated in [INF01] "Informing about the aim of the research", is effectively attained. Different scenarios concerning the use of this strategy have been retrieved from the data sample to deal with concepts which may be part of the shared knowledge with the readership, but which gain particular connotations in the investigation proposed that are well worth exploring. In Example 5.60a, such redefinition is provided for 'vulnerable groups', which is assumed to be known by the general public, but in which [INF08] is necessary to delimit the population that will be reached through the project results. In turn, the same phenomenon occurs in relation to specialised readers and the concepts 'bottom-up' and 'top-down' in Example 5.60b. Researchers from the area of the project and others may be familiar with analytical models involving these terms, but the research group deems commendable to elicit the specific meaning they have for their endeavours, so that it is clear how the project is going to be developed. The whole excerpt in this instance is used to clarify these notions, first, by using the reformulator 'this is' and extensively explaining the idea and, then, by inserting a parenthesis where the clarification is more condensed.

EXAMPLE 5.60a
IRP23
About

A brief description of the Feel4Diabetes study

Feel4Diabetes is an EU-funded study (HORIZON2020), under GACD (https://www.gacd.org/research-projects/diabetes/dm08) with a duration of 5 years (2015-2019). Feel4Diabetes is an ongoing evidence-based and potentially cost-effective and scalable school- and community-based intervention, aiming to promote healthy lifestyle and tackle obesity and obesity-related metabolic risk factors for the prevention of type 2 diabetes (T2D) among families from vulnerable groups in six European countries (Figure 1). Vulnerable groups were defined as the overall population in low/middle–income countries (LMICs; Bulgaria, Hungary), families from low-socioeconomic neighbourhoods in high-income countries (HICs; Belgium, Finland) and countries under austerity measures (Greece, Spain).

EXAMPLE 5.60b
IRP11
About



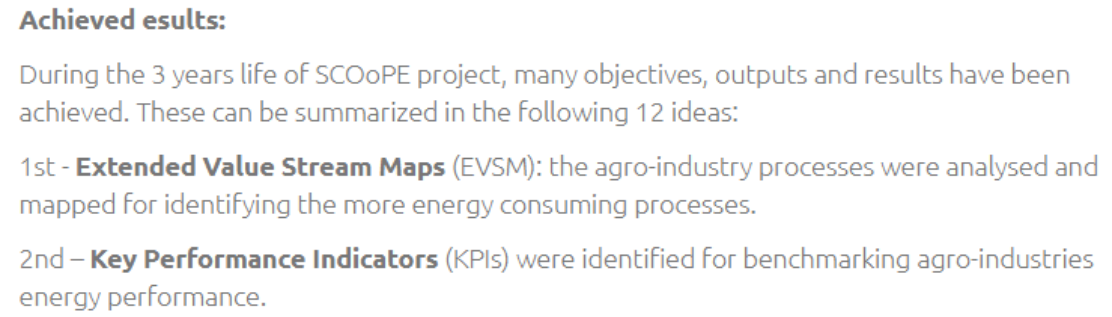
POLICY ANALYSIS AND IMPLEMENTATION STRATEGIES

Strategies and policies to minimize impacts and to achieve efficiently the aim of 2050. Top down strategies combined with bottom up approaches will be analysed through model simulations output and scenarios analysis. Bottom-up, this is, how the ability of the self-organized citizens (through NGOs or other organisations) to influence policy makers at different levels can help to implement the necessary specific economic and policy changes in the transition. And how the top-down approaches (from policies to citizens) can help to improve the efficiency and the market flexibility to allow a high RES penetration to allow the emissions reduction by 2050.

A more devoted instantiation of this informative strategy may also take place, by which research groups configure an inner webpage within the *About* sections to tackle scientific terms. This is illustrated in Example 5.61, where 'SEAPSs & SUMPs' are accounted for as crucial components in the project proposal for research innovation. It is perceptible that interactional strategies are employed to complement [INF08], which in this case embodies research groups' main intention. Hence, [INT06] "Hooking the audience" is encapsulated in the questions where the concepts are unfolded (the first one shown in the snapshot in 'What are SEAPs?'). [INT08] "Making information visually salient" is used to make the heading more prominent and to enhance the gist of the explanation through bold font. In the explanation of the concept itself, research groups also enlarge upon the concept of 'Covenant of Mayors', which was necessarily introduced to explain the former concept.

EXAMPLE 5.61 – IRP16 – *About*

One last tendency in attempting to explicate complex project-related notions seems to stand in just spelling out acronyms that are recurrently referred to in the research projects. Evidence of such usage is located in Example 5.60 above, as well as in Example 5.62, in relation to the concepts of 'EVSM' and 'KPIs'. Although sometimes the order is reversed and the acronym is first included, it may work more efficiently when the concept is introduced and then abridged. From that point on, research groups tend to resort to the acronyms in subsequent web sections, rather than making them explicit whenever employed.



EXAMPLE 5.62 – IRP15 – *About*

Promotional pragmatic strategies

When it comes to promotional pragmatic strategies in the *About* section, three of them overtly stand out over the rest (see Table 5.6 below). [PRO01] "Stating the benefits and impact of project research" (30%) scores almost one third of all the occurrences coded, and is followed by [PRO06] "Emphasising the quality and novelty of outreach (23%) and [PRO02] "Underlining relevance and value through figures" (18%). Some other strategies are partially utilised in this webpage as complementary to the intentions transmitted especially by [PRO01] and [PRO06]. Within this set

are [PRO03] "Hyping expected data and accomplishments" (12%) and [PRO07] "Acknowledging external or self-praise" (8%). Issues outside the project mission are barely covered in the *About* section, unless their relevance is big enough so as to feature them next to presentation of the investigation. That is why [PRO04] "Highlighting members' contribution to the project" (5%), and especially [PRO08] "Accounting for project productivity" (3%) and [PRO05] "Spreading a piece of output" (0%) are more often than not neglected for the fulfilment of research groups' communicative purposes in this genre. They will find room in other web sections, as I will illustrate in Subsection 5.2.2 and Subsection 5.2.3.

Promotional pragmatic strategies	**Occurrences**	**Frequency**
[PRO01] Stating the benefits and impact of project research	116	30%
[PRO02] Underlining relevance and value through figures	69	18%
[PRO03] Hyping expected data and accomplishments	47	12%
[PRO04] Highlighting members' contribution to the project	20	5%
[PRO05] Spreading a piece of output	1	0%
[PRO06] Emphasising the quality and novelty of outreach	90	23%
[PRO07] Acknowledging external or self-praise	30	8%
[PRO08] Accounting for project productivity	13	3%
[PRO09] Claiming a project milestone	2	1%
TOTAL	**388**	**100%**

TABLE 5.6. Relative frequency of pragmatic strategies within the promotional macrocategory in the *About* section.

The deployment of **[PRO01] "Stating the benefits and impact of project research"** (30%) seems to be linked to the discursive formulation that is typical of [INF01] "Informing about the aim of the research". As Example 5.63 epitomises, to-infinitive clauses are used to directly claim the general advantages that carrying out the project will bring. These benefits do not concentrate on the outreach of the investigation, and on how diverse societal agents may see a repercussion out of the project. Instead, they rather concern the research world and aim at bringing to the fore the gains to be obtained for scientific enterprises and the construction of knowledge. In the following snapshot, we can observe how the concatenation of statements to ponder the impact of the investigation creates a sort of cumulative effect that makes the illocutionary force of the strategy self-evident to readers. This is further construed by means of typography (bullet points and bold font) and evaluation in the verbs chosen to describe such benefits ('increase', 'continue', 'enhance', 'cooperate', 'implement').

Essential dimensions of the AIDA-2020 project are:

- **To increase the efficiency and quality** of the beam test and irradiation facilities by supporting their upgrades and improvements (through a dedicated Joint Research Activity), and to reinforce the Transnational Access to these facilities by offering common and free TA to **more than 900 users.**
- To continue the activities with synergies between different projects, communities and work packages, which originated in AIDA, but with **added value** such as **parallelisation** and **vectorisation** for software frameworks and **latest technologies** for micro-electronics and data acquisition.
- **To explore applications of novel technologies** and to assess them for the challenging needs of future or upgraded HEP experiments (High-Voltage CMOS sensors, 3D electronics, MEMS – Micro-Electro-Mechanical System, large scale cryogenic detectors, micro-channel cooling, etc.)
- **To enhance the infrastructures** needed to advance from development of prototypes to a construction phase of large detector systems, with two JRAs: one for gas detectors and one for calorimetry.
- **To cooperate with European Industry on the development for large series production** of HEP detectors (gas and silicon detectors).
- To implement a **novel mechanism in Integrating Activities** (Proof-of-Concept Fund) to ensure the optimal exploitation of the innovation potential of research infrastructures through **technology transfer and industrial application** of technologies developed for particle physics.

EXAMPLE 5.63 – IRP22 – *About*

A slightly distinct use is also pinpointed in the data sample. [PRO01] is in this case subsumed to the instantiation of other strategies, and is inserted to make positive connections that help enhance the *face* of the project. After the presentation of more neutral information, the promotional intention is prototypically conveyed through *–ing* clauses, which are represented in Example 5.64. In the first instance, the preceding strategy is [INF02] "Stating general background of the project", after which [PRO01] is introduced in consecutive subordinate sentences. In the second instance, it is [INF04] "Reporting on research procedure" that is emphasised prior to the instantiation of the promotional strategy discussed. Eventually, a statement has been formulated in which the utmost impact of the investigation is gathered. This is in opposition to the heading of this part within the *About* section ('Main challenges of the project') and serves to make a positive self-representation of the project.

Main challenges of the project

The project is built on the agro-industries in the fodder, olive oil production and cereal processing sectors that will achieve a TRL7-8 in their facilities, guaranteeing operation under real conditions and with big amounts of production compared to the current activity, ensuring proximity to real market at the end of the project. Main challenges are based on being able to integrate logistics, harvesting and equipment in food and non-food applications, where the project is focused; ensuring marketability of the final bio-commodities.

Besides, AGROinLOG will apply a multi-actor approach to attain experiences and knowledge of the sectors and agro-industries, enhancing the accuracy of the business models and developing effective and friendly guidelines of best practices to replicate and spread IBLC concept in Europe.

This project will contribute towards employment stability – seasonality avoidance-, rural development and bio-economy goals.

AGROinLOG's ambition is to go beyond the demo sectors, providing Europe with the practical knowledge to foster that a large share of the potential sectors adopts potential synergies of the food and non-food activities.

EXAMPLE 5.64 – IRP01 – *About*

The second most frequent strategy is **[PRO06] "Emphasising the quality and novelty of outreach"** (23%), by which research groups focus on how the activity undertaken in the project will have an economic reflection on third parties in various social environments. Accordingly, this strategy may be targeted at the potential stakeholders and beneficiaries of the project, who will have the opportunity to implement the outreach achieved. Reiterated aspects of such outreach comprise the optimisation of processes, the reduction of costs and time, and the improvement of conditions and experiences for users. Example 5.65 untangles these positive implications, after presenting the overarching benefits of the project (encapsulated in [PRO01]), by referring to 'Business opportunities' and 'Competitiveness'. It is observable that the addressed beneficiaries are explicitly mentioned ('small and medium sized food processing companies in the European Union'). The boundaries between the scopes of both [PRO01] and [PRO06] were sometimes blurry when designing the taxonomy, for which the inter-coder reliability tests conducted were of great assistance –see Chapter 3.

Changing food textures

PEF treatment can also be used to modify the structure of food by breaking down the cell membrane barriers in plant or animal tissue. It leads to tissue softening, easier and lower energy cutting and increased process speed and capacity. This results in more efficient product handling and manufacturing, a higher quality product and exciting new product development.

Business opportunities

PEF improves food quality and food safety, optimizes process efficiency, reduces energy costs and stimulates the introduction of new products. This makes the technology especially fit for small and medium sized food processing companies in the European Union. It will help the companies to fulfil the demand of consumers for fresh, nutritional quality foods and novel foods which contribute to health and wellbeing.

Competitiveness

Pulsed electric field technology will make food processing companies more competitive in the national and international food market and will provide opportunities for growth, diversification and job creation. Furthermore, the European Union is currently the global market leader in wine and olive oil. The introduction of PEF will secure this position and enhance the competitiveness of European wine, juice, fruit product and olive oil producers

EXAMPLE 5.65 – IRP07 – *About*

A further instance is presented as follows, in which the research consortium is clearly advocating for the implications that the game they have developed will have on users' experience (Example 5.66). The encompassing statement at the top, which combines the successful application of the product released with theoretical approaches within the disciplinary field of the project, gives way to three clickable buttons where the quality and novelty of outreach is unveiled.

TRIBE will act over the three fundamental aspects regarding behaviour change, which are in line with the Theory of Planned Behaviour:

+ Attitudes towards the behaviour:

+ Subjective norms:

− Perceived behavioural control:

The game will provide the player a virtual scenario to practice the implementation of a wide range of actions, providing new information and feedback of the impacts of these actions. The player will experience an improvement over its capabilities, knowledge and control and the difficulty level will be tune ad hoc to motivate each single player and therefore, the player perception of its behavioural control will be enhanced.

EXAMPLE 5.66 – IRP18 – *About*

In the interviews, connections between the rationale of the *About* section and the deployment of the promotional strategies [PRO01] and [PRO06] were hinted by informants. One of the researchers argued:

> Partiendo de que, claro, nuestros objetivos y resultados son científicos, como resultados de experimentos, de modelado… entonces son resultados muy concretos. Quizá la estrategia que se plantea es vender, entre comillas, la novedad, el interés, los beneficios, la unicidad de la investigación. […] Eso sería una estrategia, intentar llamar la atención en esa exclusividad, esa novedad.
>
> [Departing, naturally, from the fact that our objectives and results are scientific, like findings from experiments, from modelling… then our results are very specific. Perhaps the strategy that is planned is to sell, so to speak, the novelty, the interest, the benefits, the uniqueness of the research […]. That would be one strategy: trying to place the attention on that exclusiveness, that newsworthiness.]
>
> (Informant 2 – IRP20)

Finally, **[PRO02] "Underlining relevance and value through figures"** (18%) occupies the third position among the most salient promotional pragmatic strategies in the *About* sections scrutinised. It is usually supplementary to the overriding intentions of [INF01] "Informing about the aim of the research" and [PRO01] "Stating the benefits and impact of the project". The use of figures and percentages is found in Example 5.67, where calculations are made for the saving and increase about energy efficiency that is to be obtained based on the project results.

IMPACT

Economic

The successful development of the Indus3Es project will make possible to offer to the market a competitive sustainable solution for reducing significantly the energy use in the industry. This system has the potential of saving up to 20% of energy consumption and an increase of energy efficiency by 25%. There are industries where these values will be even higher but some others in which expected savings may be lower. See the chart below for possible waste heat revalued potential:

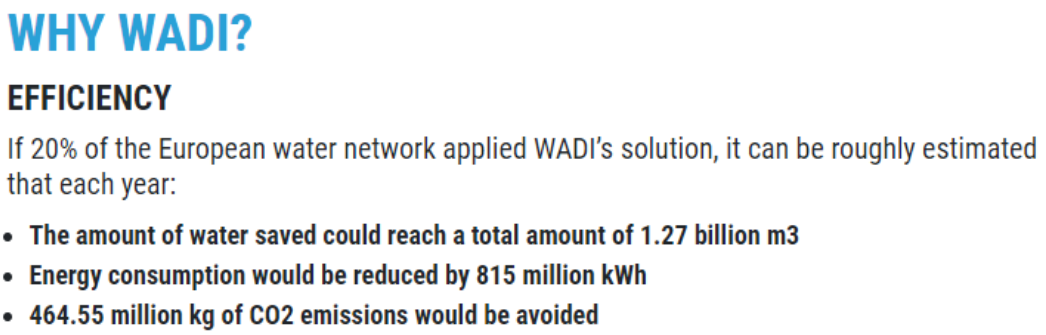
The waste heat from European industrial production have a potential value of up to 4.250 M€ for the European industrial sector (having a process efficiency of 70%).

Studies will be carried out through the project to maximize the future commercialization and exploitation of the developed technology and system. Payback is expected to be between 2 and 4 years, depending the process, fulfilling industry requirements in terms of economic feasibility. Nevertheless each process will require a specific solution, thus, a tailor-made design will need to be prepared. During the project the AHT technology will be demonstrated in a real environment, under working conditions of a Tüpras' refinery.

EXAMPLE 5.67 – IRP24 – *About*

A more attention-getting structure has been identified in the data sample as well (Example 5.68). [PRO02] in these cases is the primary strategy and is enhanced by special stylistic uses. The blue heading introduces a question that may grab the readership' interest (thereby, contributing to [INT06] "Hooking the audience"); a keyword has been fully capitalised to indicate

the promotional intention of the research group; an opening statement already introduces a figure to contextualise the value of the project and the sequence of bullet points in bold disclose consecutive figures that evidence the improvements for society as a whole. It is noteworthy that language is cautiously employed to instantiate this strategy: in the previous example, the research group focused on 'the potential' of the project to insert the figures; in this example, conditional tenses are preferred not to make strong assertions about those foreseeable benefits ('could reach', 'would be reduced', 'would be avoided').



EXAMPLE 5.68 – IRP30 – *About*

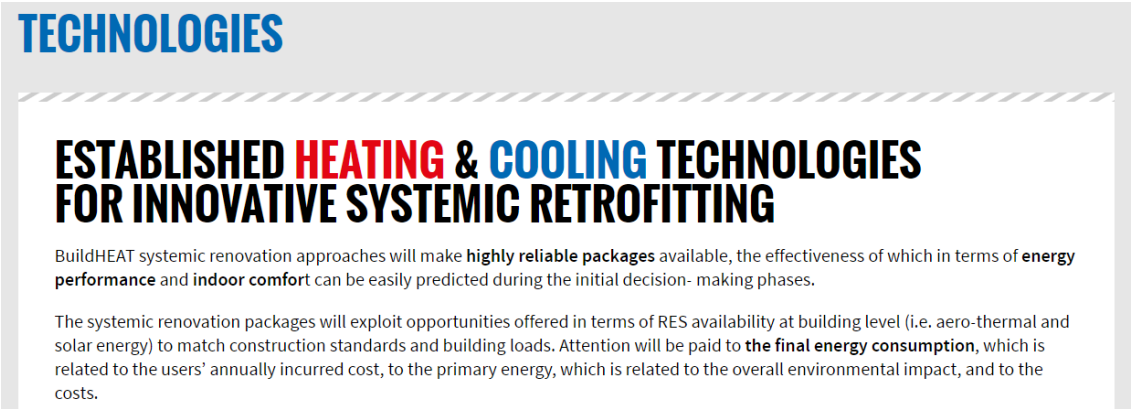
Interactional pragmatic strategies

Figures for the findings about the interactional macrocategory of pragmatic strategies are singled out in Table 5.7. They plainly show the predominance of [INT08] "Making information visually salient" (56%), which accounts for over half of the occurrences. This demonstrates that bidirectional relationships between the research consortium and the project website users are not fostered, and that these users therefore remain 'imagined'. At a large distance, the second place is featured by [INT01] "Guiding the audience to perform an action" (16%) and the third one by [INT03] "Inviting the audience to consume research project output" (7%). These strategies together allow users to continue their navigation through the website and through the outlets of the project, thus exploiting the use of internal hyperlinks. Following these are [INT04] "Fostering networks" and [INT06] "Hooking the audience" (6% each), [INT02] "Engaging the audience to participate in the project" (5%) and [INT07] "Offering contacts for information" (4%), which display low frequencies in the *About* section. These are purposefully used at particular stages to entice readers but are definitely subsidiary to other informative and promotional strategies. Even lower is the prominence of [INT05] "Praising and thanking others" (1%), which does not seem to contribute to research groups' communicative purposes in this webpage at all.

Interactional pragmatic strategies	Occurrences	Frequency
[INT01] Guiding the audience to perform an action	33	16%
[INT02] Engaging the audience to participate in the project	10	5%
[INT03] Inviting the audience to consume research project output	15	7%
[INT04] Fostering networks	13	6%
[INT05] Praising and thanking others	2	1%
[INT06] Hooking the audience	12	6%
[INT07] Offering contacts for information	8	4%
[INT08] Making information visually salient	118	56%
TOTAL	**211**	**100%**

TABLE 5.7. Relative frequency of pragmatic strategies within the interactional macrocategory in the *About* section.

[INT08] "Making information visually salient" (56%) is employed in the project descriptions to highlight the structure and the layout of these sections and to point at the gist of the texts published. As already mentioned in some of the snapshots above, headings are fruitful to this respect, as well as typographic resources –mainly bold font. Nevertheless, other interesting examples have been found in the corpus, hinting at the strategic use of colour. Example 5.69 portrays an occurrence of the strategy where the arbitrary, decontextualised connotations of colour (Kress and van Leeuwen 2002) have been appropriated for the sake of the project self-branding. Red and blue are applied to imply *heat* and *cold*, in line with the project mission, which revolves around 'energy performance and indoor comfort' in urban renovation. Hence, [INT08] is conveyed to raise implicatures that may be well understood by readers, complying with the idea of explaining central concepts, familiar to anyone, for the research proposed.



EXAMPLE 5.69 – IRP02 – *About*

Despite not scoring a high frequency, the instantiation of [INT08] also purports to amplify the illocutionary force of other interactional strategies. These combinations are visible in the headings of Example 5.70a, where it accompanies [INT06] "Hooking the audience", and Example 5.70b, where it functions alongside [INT02] "Engaging the audience to participate in the project".

Thanks to this interplay, users are expected to feel welcome and continue reading, and getting involved in the project development, respectively.

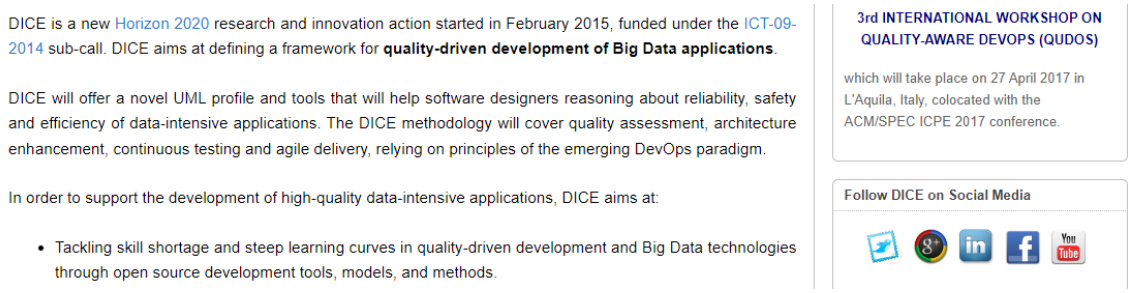
EXAMPLE 5.70a
IRP10
About

EXAMPLE 5.70b
IRP03
About

After [INT08], the most recurrent strategy is **[INT01] "Guiding the audience to perform an action"** (16%), which appeals readers to take a course of action in their navigation of project content. The strategy is normally geared towards pinning down quick actions, expressed through commands. This is the objective of Example 5.71, where unfolding boxes have been designed for each research goal disclosed. The capitalised cue 'Read more' enables users to have the main information at a glance and, then, lets a diversified audience decide whether to consult more details by activating such 'site for action' (Adami 2015). Hyperlinks are employed in this case to extend information within the same webpage, but could lead users to other project-hosted webpages.

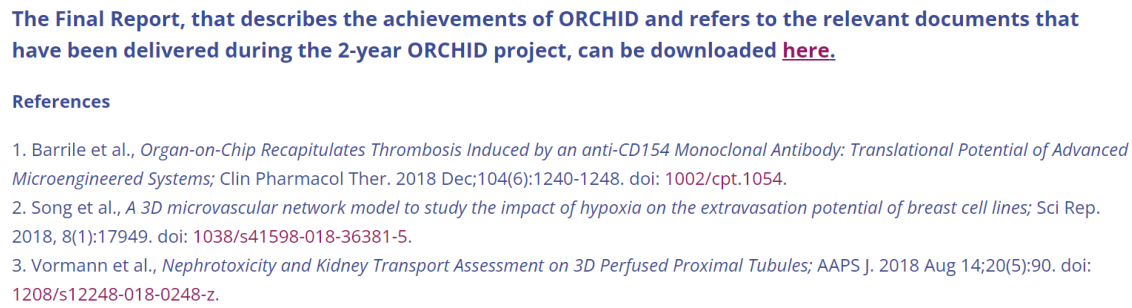
EXAMPLE 5.71 – IRP028 – *About*

As opposed to the association of internal hyperlinks with the deployment of [INT01], Example 5.72 displays different uses of this digital affordance. Precisely to amplify the information about the project, external hyperlinks are introduced, and users are implicitly pushed to follow those routes. A trend is to do so in alliance with the use of [INF10] "Acknowledging research funding", so that users are driven to the website of the Horizon2020 programme and to the specific institutional webpages where the project is featured, as the links in the snapshot show. Furthermore, another area is set up within the *About* section of the example to guide users to perform an action: SNSs icons are placed to the right and topped by the directive 'Follow DICE on Social Media'. This implies that peripheral links are favoured there, probably to maximise the presence of the project and compel the readership to grow a sustained interest in the project through other platforms.



EXAMPLE 5.72 – IRP005 – *About*

[INT03] "Inviting the audience to consume research project output" (7%) was positioned in third place within the macrocategory of interactional strategies, but is shortly followed by other strategies, as shown in Table 5.7. Yet, there is an important factor to bear in mind: only projects that had finished at the time that the EUROPROwebs Corpus was compiled display the occurrence of this strategy in their *About* sections. This may mean that the potential for this strategy to be included in these texts is bigger than the one shown in the data sample. Example 5.73 lets us observe how [INT03] is related to the release of a final report of the project, which can be accessed through the hyperlinked endophoric marker 'here'. While this is the main focus and an internal hyperlink is used to invite the audience, users (probably with akin interests to the research group) have at their disposal the academic publications cited in the report, which are listed below and made openly available through the DOIs, that is, through external hyperlinks leading to the journal where the articles are hosted.



EXAMPLE 5.73 – IRP014 – *About*

Combinations of pragmatic strategies

Research groups add together various pragmatic strategies in the conveyance of their intentions. Therefore, reiterated combinations of strategies stand out and help comprehend how the different web sections –the *About* section at this stage– are discursively constructed. The overarching structure of these webpages is depicted in Figure 5.3, where prominent data-driven strategies are patterned to observe both the homogeneity in crafting the *About* section and the variability of intentions that research groups normally negotiate in them.

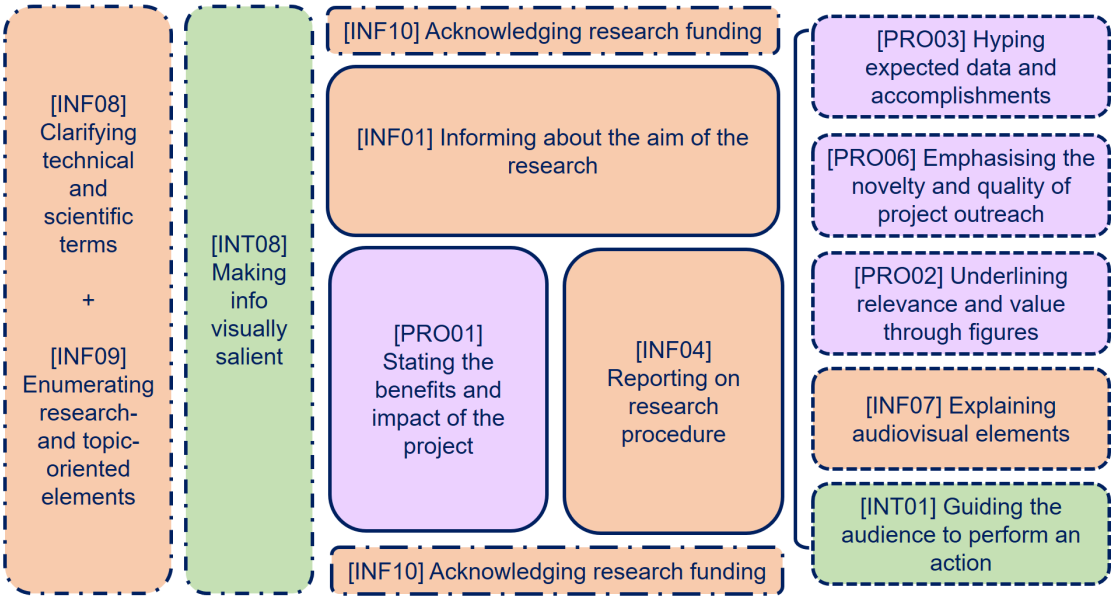


FIGURE 5.3. Prototypical patterns of pragmatic strategies in the *About* section of RPWs.[27]

Three pragmatic strategies are at the core of these texts, namely [INF01] "Informing about the aim of the research", [PRO06] "Stating the benefits and impact of the project" and [INF04] "Reporting on research procedure". Their position within the figure indicates that [INF01] is recurrently placed at the top of the *About* section so as to point out from the beginning research groups' goals. Then, several trends have been sketched in the corpus: [PRO01] can be deployed first and followed by [INF04]; the research group opts for the reverse order of the strategies; or both strategies are interspersed through the paragraphs, overlapping the methodological information with the advantageous principles and actions taken in the project. Subsequently, other pragmatic strategies play a significant role in the deployment of the three former ones and nuance research groups' complex intentions. In most *About* sections the spectrum of those strategies

[27] Visual figures describing patterns of strategies have been designed by regarding the optionality and commonality in the deployment of pragmatic strategies. Unbroken lines indicate that the pragmatic strategies are central to the structure of a research project web section. Discontinuous lines point at the frequent insertion of those pragmatic strategies, but display variability to a greater extent depending on research groups' practices. Fully dotted lines comprise the strategies that may present a higher heterogeneity within the prototypical structure of the web sections. A specific colour coding has also been applied, signalling informative pragmatic strategies in orange, promotional ones in purple and interactional ones in green. These indications should also be borne in mind for Figure 5.4 and Figure 5.5 in Subsection 5.2.2 and Subsection 5.2.3, respectively.

comprises [PRO03] "Hyping expected data and accomplishments", [PRO06] "Emphasising the quality and novelty of outreach", [PRO02] "Underlining relevance and value through figures, [INF07] "Explaining audiovisual elements" and [INT01] "Guiding the audience to perform an action". Thus, it seems that research groups' intentions are highly promotional in these webpages, and not just limited to an overview of the project, as could be expected, or to the interaction with their imagined audience. A certain degree of interdiscursivity (Bhatia 2004, 2010) is accordingly inferred, displaying pragmatic intentions and borrowing discursive features that rather pertain to purely promotional genres, like those employed for corporate and commercial communication.

In addition to these possibilities, there are four other pragmatic strategies that systematically feature the *About* section of the EUROPROwebs Corpus, three of which correspond to the informative macrocategory, whereas the other one is interactional. [INT08] "Making information visually salient" cuts across the whole web section and lets users focus their attention to the enactment of the strategies already presented. This is carried out by enhancing the use of headings, typography, colour, icons and hypertextual references, *inter alia*. Hence, the strategy is placed to the left in Figure 5.3 to state that it encompasses the main structure of the *About* sections. Focusing on the informative strategies, on the one side, [INF08] "Clarifying technical and scientific terms" and [INF09] "Enumerating research- and topic-oriented elements" are introduced all along the text, as much as [INT08]. They are interwoven in the rest of strategies discussed and employed to reinforce the informativity of the texts –by defining, describing, reformulating and exemplifying project-related concepts. On the other side, [INF10] "Acknowledging research funding" is quintessential in these webpages, and has been found to occupy two alternative places. While it is sometimes instantiated in the first part of the text, merging with the use of [INF01], other times a specific place is allotted at the end of the text, where the strategy is separately foregrounded and a heading is often prompted to make it self-evident. The salient position given to the strategy in the former scenario allows users to be aware of the financing granted to the project right after they start reading. In turn, the latter scenario frames the strategy in an independent place within the *About* section, providing it with a distinctive configuration, although users might need to scroll down.

After having zoomed in onto research groups' pragmatic trends in the digital practices endorsed in the *About* sections of their project websites, a closer look is taken to the *Partners* sections, where the analysis of the pragmatic strategies has yielded some different results.

5.2.2. The *Partners* section

In the present subsection, pragmatic strategies are analysed and discussed in the specific *Partners* webpage, corresponding to the presentation and justification of the members, from different professional and sociocultural backgrounds, which make up the consortium of Horizon2020 research projects.

Two main approaches are taken by H2020 research groups when introducing the project partners, depending on external variables like the internal organisation of a research project and

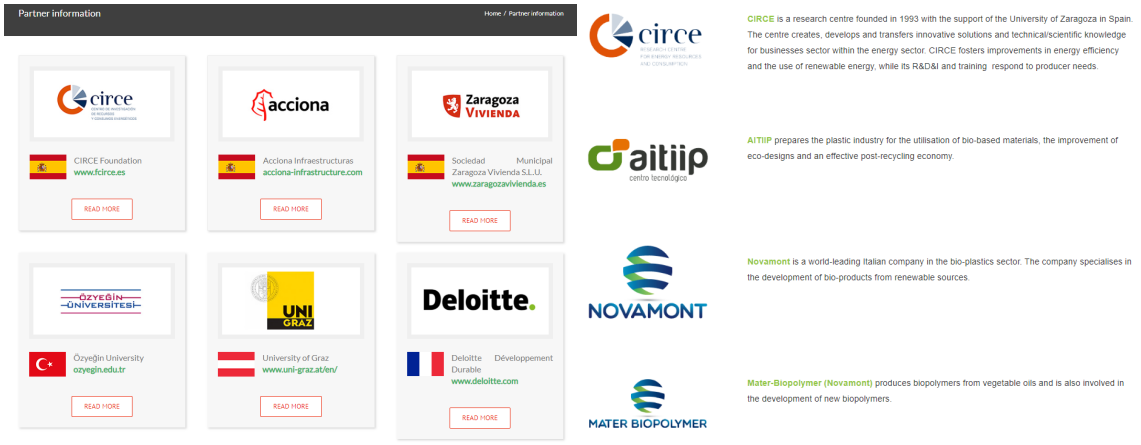
the level of coordination among its members. These different circumstances –worth exploring to retrieve contextual data with which to inform pragmatic and discursive analyses and make them more robust–, are reflected on the ways project members are presented in these digital texts, and in the particular communicative goals behind such (re)presentation.

The first approach entails the allusion to the universities and institutes that embark on a research project as well-established, far-reaching entities which participate in the proposed investigation through specific research groups working at them. Hence, the project structure is represented at a macro-level in which researchers may or may not be mentioned as representative or relevant for the research project consortium. The second case addresses the specific professionals and research fellows that, as members of an institution, have decided to get involved in a particular project. Thus, the focus is on the personnel recruited to develop the research, and their institutional affiliation serves to frame their background and to imbricate their expertise and reputation in a wider, institutional and international system.

Nevertheless, the preference of research groups to take one of these two angles for the introduction of their members does not pose meaningful differences to the analysis of the discursive practices and pragmatic strategies materialised in the *Partners* section. Primary communicative intentions are found to coincide across these sections, regardless of the perspective privileged, and there seems to be a high degree of homogeneity in the content chosen to depict the project members and highlight their function and pertinence for the research project. This will be shown in the analysis of pragmatic strategies offered below.

First, some mention needs to be made to the formulations chosen to label the *Partners* section, as well as on the position that it holds within the website menu, as allocated by research projects to confer a higher or lower emphasis to its members. This position may be central and clearly visible to the user when accessing the *Homepage* or, else, subsumed and more peripheral, unfolding as the menu is navigated or even remaining hidden unless other webpages are accessed first. In tackling the first issue, the span of labels chosen to name a *Partners* sections in the EUROPROwebs Corpus include, on top of the one already mentioned, '(Project) Consortium', '(Our) Team', 'Participants', 'Researchers', '(Project) Members' and 'Universities'. Regarding the place of this section within the website menus, the tendency is to systematically include it as the second or third label to click on. This privileged position is confirmed by the fact that 23 out of the 30 research projects analysed have decided to allocate it in the website menu. Only 4 projects include it under a more encompassing section (so it is embedded and users need to hover over the menu to access it); and just 3 projects have considered it irrelevant to feature it in the menu, and have thus subsumed this section under others that inevitably mediate the access for users.

Then, the general design of the *Partners* section was observed, giving way to two different layouts, either in the form of a grid or of a list, as can be seen in the snapshots in Examples 5.74a and 5.74b, containing prototypical examples of these web sections.



EXAMPLE 5.74a and 5.74b – IRP18 and IRP03 – *Partners*

Although distinctive configurations have been encountered for the *Partners* section relying on hypertextual and multimodal resources, as expounded in Subsection 4.1.3, webpages within this section tend to be characterised by the presence of verbal texts. Yet, in a general overview of the different multimodal choices that research projects have endorsed to support the description of the project members, interesting visual elements can be observed. Out of the 23 *Partners* sections, 7 include a map to visually locate the members of the project. 4 of them are static maps where the user has no site for action (Adami 2015), while the other 3 are dynamic and allow users to click on different countries or come up with pop-up menus extending the partners' information. Additionally, 4 IRPs include representational pictures of the project members (one of them in the form of a carrousel), where users can see the *human capital* of the projects and establish a more interpersonal rapport. 3 IRPs also classify the information about the researchers using tables and graphs to manifest the diversity of backgrounds involved in the investigation, which is in the end one of the requisites of the calls research groups apply for and one of the assets of these international projects.

Informants reported the use of numerical data to ease users' processing of information and making a favourable description of the project. Some of these figures normally refer to the introduction of project members in the *Partners* section, as stated by a researcher:

> Son informaciones muy esquemáticas, son informaciones como con mucha imagen, destinadas a que la gente con un vistazo pueda enterarse… Por ejemplo, estoy viendo aquí hay una imagen de los países que participamos [en el proyecto Horizonte2020]. Claro, si en el texto tú te tienes que leer esto, que es un poco arduo, por decirlo de alguna manera… tú ya de un vistazo sabes aquí cuántos países participan. Luego ya si tú te quieres ir a factores numéricos, pues te viene aquí el número de personas que ha participado dentro de cada uno [de los socios], el cuestionario que hemos realizado. Creo que este tipo de esquemas se entiende mucho mejor, el tipo de diseño que se ha utilizado.
>
> [Information is very schematic; it is information with a lot of image support intended for people who can find out at a glimpse… For example, I'm seeing here an image of the countries that participate [in the H2020 project] Of course, if in the text you have to read this, which is a bit arduous, so to speak… you know at a quick look here how many countries participate. Then, if you want numerical factors, you have here the number of people that have participated within each

> of them [the partners], the questionnaire that we have carried out… I think this type of schemes is much better understood; the type of design that has been used is effective.]
>
> (Informant 9 – IRP23)

A final necessary consideration for the pragmatic analysis focused on the actual design of verbal texts where the project partners were purposefully introduced to the readership, as stated in Subsection 3.1.3. Although the verbal mode prevailed, some *Partners* sections rather opt for maximising the affordance of hyperlinking and showcase a hypermodal design. Even when their design may coincide with the sections in which verbal entries are devoted to project members (see Example 5.74a above), they have necessarily been discarded for the analysis of data-driven pragmatic strategies, as they could not be placed at the same level as the projects that had produced web-generated texts for this section. As follows, results about the use of pragmatic strategies are offered for the *ad hoc* corpus of 23 *Partners* sections with verbal texts for the introduction of project members.

Informative pragmatic strategies

The results from the analysis of informative pragmatic strategies in *Partners* sections are presented in Table 5.8 below. As can be seen, two strategies openly predominate within this macrocategory, namely [INF05] "Disclosing information about members" (38%) and "Enumerating research- and topic-oriented elements" (28%). The former specifically suits the overarching purpose of the *Partners* sections within Horizon2020 research project websites, which is to introduce the institutions and organisations collaborating in the funded project and justify their presence and pertinence within the investigation to be undertaken. The latter is emphasised throughout these sections to increase the informativity of the texts and to contextualise the characteristics and trajectories of the partners to the audience. Therefore, it caters for providing both exemplification (locutionary force) and evidence (illocutionary force) of the work of the project members.

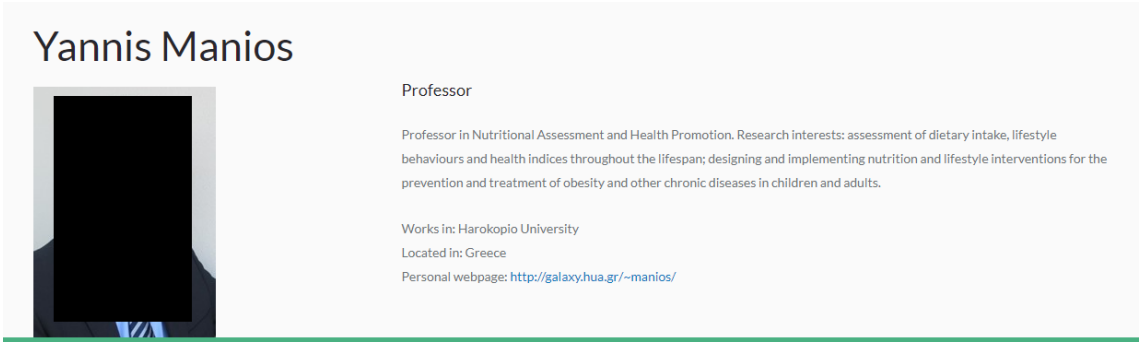
Other informative pragmatic strategies are less frequently employed, but display remarkable functions to further construe the profiles of the project partners in this website section. This is the case of [INF01] "Informing about the aim of the research" (13%) and [INF08] "Clarifying scientific and technical terms" (12%). [INF01] seems to be at the core of the *Partners* section as well in order to make the research areas and interests of the consortium partners readily accessible to users and to establish connections with the rationale of the research project. [INF08] is intended to cover the potential knowledge gaps of the audience in relation to the various disciplinary backgrounds and research missions of the individual members of the project. Through the use of verbal definitions, acronyms and parentheses, specialised terminology is enlightened to heterogeneous audiences. Less common strategies within the informative scope involve [INF10] "Acknowledging research funding" (4%), both of the Horizon2020 framework and other national and regional financing bodies that grant expenditure to the respective partners; [INF04] "Reporting research procedure" (3%), with the aim of matching the methodological and analytical standpoints that research members may bring to the investigation of the project; and

[INF07] "Explaining audiovisual elements" (2%), employed in the few cases where pictures and maps, above all, are inserted in the *Partners* sections.

Informative pragmatic strategies	Occurrences	Frequency
[INF01] Informing about the aim of the research	134	13%
[INF02] Stating general background of the project	4	0%
[INF03] Giving specific details about an event	2	0%
[INF04] Reporting on research procedure	30	3%
[INF05] Disclosing information about researchers	401	38%
[INF06] Presenting the content of outreach	0	0%
[INF07] Explaining audiovisual elements	17	2%
[INF08] Clarifying technical and scientific terms	133	12%
[INF09] Enumerating research- and topic-oriented elements	302	28%
[INF10] Acknowledging research funding	42	4%
TOTAL	**1065**	**100%**

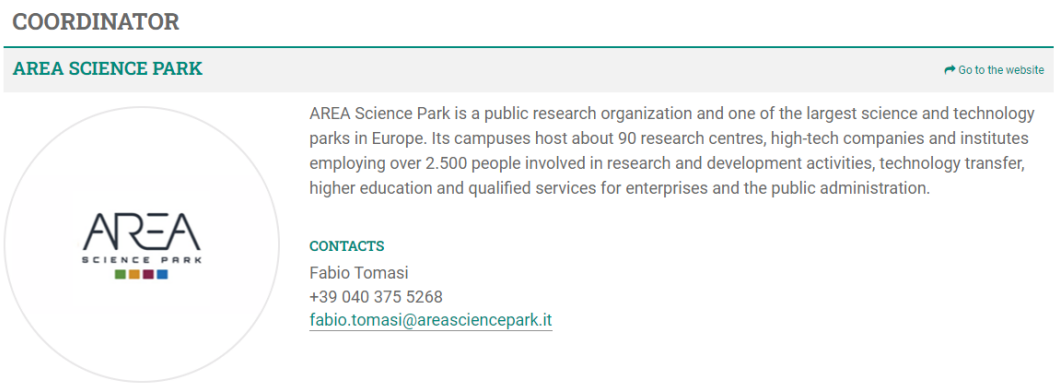
TABLE 5.8. Relative frequency of pragmatic strategies within the informative macrocategory in the *Partners* section.

Next, specific explanation is provided as for the role and use of the top-three most salient pragmatic strategies within the *Partners* sections included in the informative macrocategory. Example 5.75 displays the paragraphs devoted to the presentation of individual researchers within the project team. Hence, the strategy **[INF05] "Disclosing information about researchers"** (38%) is deployed through the whole fragment, in which details about the professional and personal background of the researcher are reported. In this case, no explicit connections are made as for the role researchers will play within the project, which would entail the occurrence of the promotional strategy [PRO04] "Highlighting members' contribution to the project".



EXAMPLE 5.75 – IRP23 – *Partners*

A similar instance is found in Example 5.76. On this occasion, instead of focusing on the individual level, the research project presents its members at an institutional level. The disclosure of the project member's profile is complemented with the interactional strategy [INT07] "Offering contacts for information", which can be readily located by users at the bottom.



EXAMPLE 5.76 – IRP16 – *Partners*

There are also research projects in the corpus that combine both of the options presented above. Example 5.77 illustrates this by focusing the attention on the institution that participates in the project consortium at the beginning, and introducing specific researchers within that institution in the textual description. It is remarkable that the interactional strategy [INT01] "Guiding the audience to perform an action" is used by adding the hyperlink to the external website of the partner right at the beginning and emphasised in yellow, where more information about it can be gathered by users. In turn, [INT08] "Making information visually salient" is remarkably employed through the insertion of in-bold font, one the one hand, to make the country the partner comes from visible, emphasising the internationality of the consortium, and, on the other, to let users rapidly identify the name of the individual researchers involved.

Johnson Matthey PLC, **United Kingdom** - a speciality chemicals company focused on its core skills in catalysis, precious metals, fine chemicals and process technology. Johnson Matthey's principal activities are the manufacture of autocatalysts, heavy duty diesel catalysts and pollution control systems, catalysts and components for fuel cells, catalysts and technologies for chemical processes, fine chemicals, chemical catalysts and active pharmaceutical ingredients and the marketing, refining, and fabrication of precious metals. Johnson Matthey's participation in this project is through the Technology Centre (JMTC) based at Sonning Common in the UK. This central facility acts as a focal point for the development of new technologies into emerging market applications. **Dr Peter Hinde**, a Senior Scientist with experience in catalysts for vehicular exhaust emission control, reforming, photocatalysis and plasma hybrid catalysis, and **Dr Stephen Poulston**, a Senior Principal Scientist with experience in heterogeneous catalysis and sorbents, are participating in ADREM.

Johnson Matthey is the leader of the catalyst development and the TRL5 validation of the selected concepts.

EXAMPLE 5.77 – IRP21 – *Partners*

The second most frequent strategy is **[INF09] "Enumerating research- and topic-oriented elements"** (28%). This is employed to list the research topics that fall into the expertise of the project members, as Example 5.78 demonstrates with a very elaborated list. Attention is paid in such a way to the work of the partner aside the Horizon2020 research project, but implications are drawn as for how their research tradition may be connected with the purposes of the project.

Circe

CIRCE Foundation (Centre of Research for Energy Resources and Consumption) was established in 1993 as an independent Research Centre to create and develop innovative solutions and scientific/technical knowledge and to transfer them to the business sector in the field of energy. CIRCE's mission is to drive forward improvements in energy efficiency and to spread the use of renewable energy by means of the development of R+D+I activities and formative actions, thereby contributing to a sustainable development.

Over 190 professionals with a broad variety of profiles compose the team of people working at CIRCE. Since 1993, CIRCE has conducted more than 2.500 R&D&I projects at national and international level and has trained more than 1.850 professionals from 47 countries within the postgraduate courses CIRCE promotes. In year 2001, CIRCE was recognized as National Centre of Innovation and Technology. CIRCE maintains a national leadership position in the field of Energy Efficiency, being the third national Research Centre getting more projects in competitive calls during period 2004-2007 in Spain. The main research topics in CIRCE are: energy efficiency, wind and solar power, natural resources, biomass, electrical substations, smart-grids and storage, thermal power systems and emissions reduction, sustainable mobility and energy socioeconomics.

EXAMPLE 5.78 – IRP29 – *Partners*

Thirdly, **[INF01] "Informing about the aim of research**" (13%) is also useful in the introduction of team members, and helps further contextualise the disciplinary background of the project and the individual research institutions. Example 5.79 displays how the introductory paragraph to the *Partners* section begins by presenting the consortium, with a special emphasis on the number of partners, the sectors they come from and the amount of countries involved in the project. After that, the second paragraph overtly refers to the main goal of the project that all partners share.

The CIRC-PACK consortium comprises 22 partners from across the plastic packaging value chain: plastic suppliers, converters, retailers, waste recovery managers from the public and the private sector, research organisations and non-profit organisations. The partners come from six countries across Europe: Croatia, France, Germany, Italy, Spain, the Netherlands and Turkey.

Together the partners are developing more sustainable, re-usable forms of plastic packaging, while supporting the market uptake of these solutions. The objective is to promote a transition to a circular economy; one which contributes to European Union waste management and recycling targets by 2030.

EXAMPLE 5.79 – IRP03 – *Partners*

This strategy, which was originally regarded as exclusive to the research project mission, has seen its boundaries somehow redefined throughout the analysis to encompass the research goals of the individual partners as well. Such a decision is supported by the purposeful interspersing between the project members' research purposes and the rationale and the aims of the international research project itself, which overall provides the readership with a sense of

direction and coherence. From the general rationale of the investigation that the whole website pivots around, users may zoom in on the scope and objectives of each of the members. These texts where the project partners are profiled may unveil the research group's attempt to reinforce the readership's knowledge of the particular disciplinary fields entrenched in the project. An instance of the mentioned scenario is captured in Example 5.80, and discursively constructed through expressions such as 'Its mission is to…' and 'aiming to…', by which the areas of performance of the partner are put forward, together with its adscription to the topic of the project investigation.

DARe is the agrofood technology district of the Apulia Region, grouping together more than 100 SMEs operating in the primary production and manufacture sector, research institutions, farmers and entrepreneurial associations, local authorities and one bank. Its mission is to match the innovation needs of the agrofood companies with the technical expertise its research entities could provide. Up to date, DARe manage projects funded by regional operational programmes (ERDF and EARFD) aiming to foster the uptake of innovation solutions in the field of sustainable production and processes, food security and safety, biotechnologies.

EXAMPLE 5.80 – IRP28 – *Partners*

Promotional pragmatic strategies

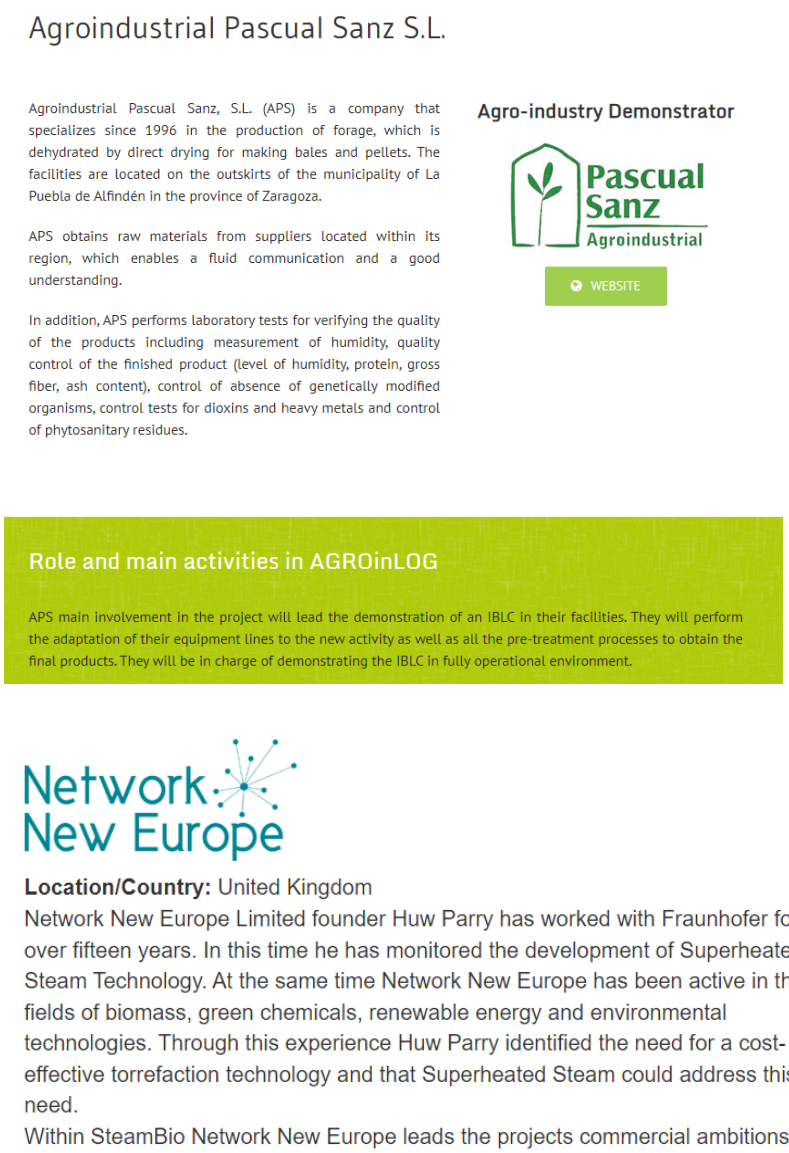
The distribution of promotional pragmatic strategies in this web section demonstrates a clear tendency in the ways research projects justify the appropriateness of the partners to develop the proposed investigation and boost their features and previous accomplishments. As Table 5.9 indicates, three are the outstanding pragmatic strategies that permeate the *Partners* sections of the EUROPROwebs corpus, namely [PRO04] "Highlighting members' contribution to the project" (34%), [PRO02] "Underlining relevance and value through figures" (33%), and [PRO07] "Acknowledging external and self-praise" (24%).

Promotional pragmatic strategies	**Occurrences**	**Frequency**
[PRO01] Stating the benefits and impact of project research	1	0%
[PRO02] Underlining relevance and value through figures	246	33%
[PRO03] Hyping expected data and accomplishments	13	2%
[PRO04] Highlighting members' contribution to the project	251	34%
[PRO05] Spreading a piece of output	0	0%
[PRO06] Emphasising the quality and novelty of outreach	56	8%
[PRO07] Acknowledging external or self-praise	177	24%
[PRO08] Accounting for project productivity	0	0%
[PRO09] Claiming a project milestone	0	0%
TOTAL	**744**	**101%**

TABLE 5.9. Relative frequency of pragmatic strategies within the promotional macrocategory in the *Partners* section.

Research groups' intention in **[PRO04] "Highlighting members' contribution to the project"** (34%) is to point out the value assigned to the role of each of the partners within the project, sketching why they were chosen to perform that role and how their expertise and involvement are beneficial to the investigation. Example 5.81 depicts two analogous, but slightly different, examples. In both instances, the introduction of the team member occupies the upper part of the partners' profile and place is devoted at the bottom to the 'role and main activities' of such team partner. Nevertheless, while IRP01 has opted for a multimodal configuration where borders have been employed to frame the strategy and a particular typography serves to distinguish the heading that introduces the strategy, IRP26 has chosen to just include the strategy together with the rest of the text, making it much less noticeable for the reader.

EXAMPLE 5.81a
IRP01
Partners



EXAMPLE 5.81b
IRP26
Partners

Research groups resort to numerical data that back up the rationale of their investigation, entailing an intention of **[PRO02] "Underlining relevance and value through figures"** (33%). In the *Partners* section, figures and percentages uncover the relevance and singularity of the

project and its members, and drive the readership to logically connect how they will have a positive influence on the investigation. For example, in Example 5.79 above, the research group brought to the fore the number of project partners. Likewise, figures also refer to employees hired, countries involved, projects undertaken, areas under operation and measurements that provide benefits (distance, electricity, saving), depending on the project mission. This can be viewed in Example 5.82, after a more neutral description of the project member and before the audience is guided to click on its website [INT01] and offered its contact information [INT07].

CLIVET SPA

Established in Feltre, Belluno in 1989, Clivet is a leading European company that designs, produces and distributes systems for air conditioning, heating, fresh air and purification with a wide range of solutions for residential, commercial and industrial applications.
Clivet has developed an innovative range of products and systems dedicated to the needs of different types of installation, becoming a leader in some important segments of the air conditioning market such as shopping centres, multiplex cinemas, trading centres, hospitals, highly crowded areas and commercial use areas in general.
As of today, the group employs a staff of 700 employees in Italy and overseas. Clivet has six branches: in England, Spain, Germany, the Arab Emirates, India and Russia.
Today Clivet covers an operation area of 50.000 m2 sited in Feltre (Belluno), Italy.
The distribution network can count on forty agencies in Italy and fifty overseas distributors.

Website: www.clivetlive.com

Andrea De Faveri
R&D Clivet SPA
a.defaveri@clivet.it

EXAMPLE 5.82 – IRP02 – *Partners*

Finally, as the third most prominent strategy within the promotional macrocategory, **[PRO07] "Acknowledging external and self-praise"** (24%) is targeted at making partners' self-image explicitly flattering to users (therefore prioritising self-praise over external praise in this particular generic practice). The focus is not placed on enhancing the project itself, but on how the partners stand out. It is the project, and even the partners themselves, who tends to offer these descriptions, so the recurrent instantiation of this strategy gives users the impression that the project is praising its members, as if they were not involved in the website maintenance and in the process of identity construction. This possibly disguised self-praise remarks the advantages and benefits the partners bring to the project and flatters their qualities and strengths, as illustrated in Example 5.83.

Politecnico di Milano is one of the Technical Universities in Italy. It was established in 1863 and is ranked as one of the most outstanding European universities in Engineering, Architecture and Industrial Design. Politecnico di Milano participates in this project through members of Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB), belonging specifically to the DEpendable Evolvable Pervasive Software Engineering (DEEP- SE) group. DEEP-SE has been ranked among the internationally excellent groups in the software engineering area by a recent international peer review. The research activity of the DEEP-SE group focuses on techniques, tools, and frameworks for the development and run-time management of complex soft- ware systems. It encompasses a variety of aspects of such systems, ranging from modelling and analysis issues in the early phases of their development, to issues related to their implementation and run-time management.

EXAMPLE 5.83 – IRP05 – *Partners*

The occurrence of this strategy is related to the design of the *Partners* section, since it is the partners themselves, many times, who craft their profiles and send them to a chosen project partner that coordinates the texts and configures the website. In that sense, the self-praise is clear, as project members systematically choose their best qualities and accomplishments to be featured in their partners' descriptions. This is why the interactional pragmatic strategy [INT05] "Praising and thanking others" cannot be interpreted in this scenario; it is out of the project that the positive representation of the research team is attained and, hence, this needs to be understood as fundamentally promotional.

Interactional pragmatic strategies

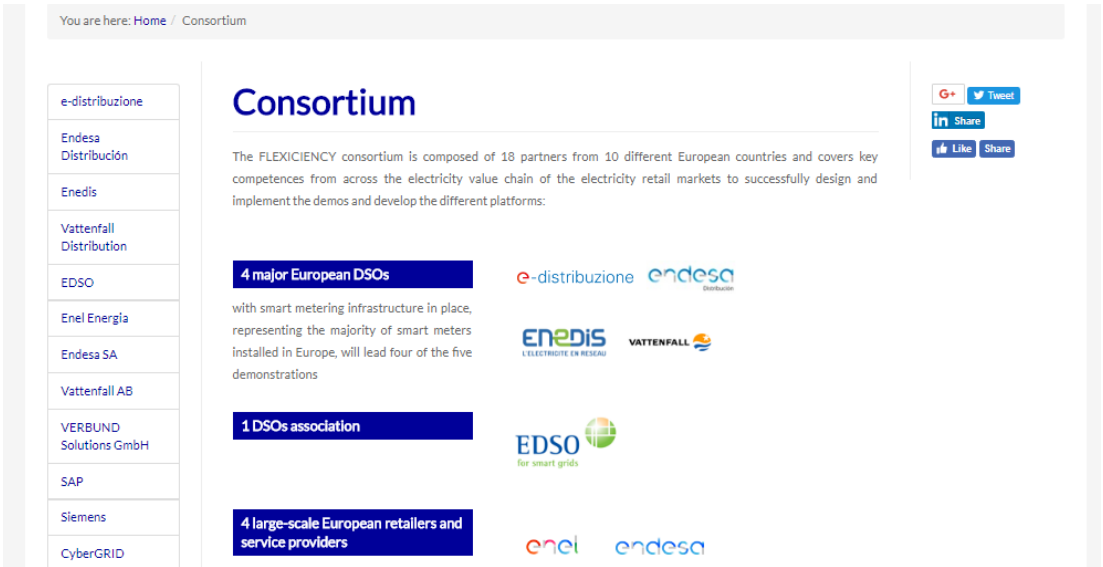
Finally, the prominence of interactional pragmatic strategies was looked into in the *Partners* sections. Their frequency is summarised in Table 5.10, the top-three most salient ones being [INT08] "Making information visually salient" (52%), [INT01] "Guiding the audience to perform an action" (32%), and [INT07] "Offering contacts for information" (12%). It is striking to observe that they are only followed by [INT04] "Fostering networks" (3%), whereas the rest of the pragmatic strategies included in this macrocategory barely show occurrences at all. A possible inference may be that the generic features of *Partners* section are more clearly delimited than those of other web sections, and that research groups are much aware of the specific intentions they want to deploy in such a digital practice.

Interactional pragmatic strategies	Occurrences	Frequency
[INT01] Guiding the audience to perform an action	352	32%
[INT02] Engaging the audience to participate in the project	2	0%
[INT03] Inviting the audience to consume research project output	1	0%
[INT04] Fostering networks	35	3%
[INT05] Praising and thanking others	2	0%
[INT06] Hooking the audience	3	0%
[INT07] Offering contacts for information	131	12%
[INT08] Making information visually salient	580	52%
TOTAL	**1106**	**100%**

TABLE 5.10. Relative frequency of pragmatic strategies within the interactional macrocategory in the *Partners* section.

The most relevant interactional pragmatic strategy seems to be **[INT08] "Making information visually salient"** (52%), as illustrated in Example 5.84 and Example 5.85 below. One possible reason is that, in the *Partners* section, which is assumed to be more static than other sections, research groups make the effort of configuring special layouts that may result appealing to users and that may assist in organising effectively the information about the consortium and the profile of the project members. When web-generated verbal texts are produced, making information salient by means of multimodal ensembles and typographical resources may make it more readily accessible for users to read about the partners' backgrounds.

Example 5.84 shows the main webpage of a *Partners* section, titled 'Consortium' in this case, which makes an effective use of [INT08] to frame the key data about the project team. After a verbal introductoy paragraph where the main details about the team are put forward, information is clearly structured in a visual way. By looking at the blue boxes, placed on the left side, readers can find out about the number and type of partners involved in the investigation. By introducing the partners' logos on the right hand, readers can make connections with such boxes and click on the members' individual profiles.



EXAMPLE 5.84 – IRP08 – *Partners*

A further instance is offered to analyse how [INT08] is instantiated in the partners' individual posts as well. Example 5.85 displays the recurrent use of typographical hints in the verbal narration of the team members to enhance the essential parts of the text and attract users' attention. This is done at the upper part of the webpage, where an in-bold recapitulating paragraph is located on the right hand, next to the project logo, placed to the left; in the middle of the wepage, where blue-coloured bullet points are listed to successfully cover the partners' agenda; and at the end of the webpage, where in-bold font is used again to point out the link to the partner's external website as well as the continuation of the webpage, which will deal with the individual researchers under the heading 'Members'.

DUHA - HNUTI DUHA

Hnutí DUHA
Friends of the Earth Czech Republic

Hnuti DUHA (HD) is the largest environmental NGO in the Czech Republic. With 30+ staff and a number of volunteers, we work on issues ranging from climate and energy, forests and biodiversity, resources and waste recycling, as well as general environmental policy.

The mission of Hnuti DUHA is to secure clean and healthy environment for everyone and to promote civic society development. HD has over 20 years of experience in cooperating with scientists and using scientific knowledge in large-scale information campaigns understandable for broad public. HD intensively supports people to take an active part in civil society development and it motivates them to lead environmentally friendly lifestyle. Our media outputs effectively reach hundreds of thousands of people (confirmed by press monitoring). The organization has 10 local groups and it is divided into four program units covering the following agenda:

- Energy Program focuses on energy efficiency, renewable energy sources and raising public awareness on climate change issues.
- Waste Management Program works in order to increase resource efficiency, recycling promotion and general transfer to a society that uses waste in a strategic and sustainable way.
- Forestry Program works on protected areas, education of adults and staff from other NGOs, biodiversity protection, environmental forestry and forest management.
- Sustainable Consumption Program deals with local farming issues, sustainable consumption and agriculture in the Czech Republic.

DUHA has been involved in dozens of international projects with significant proportion of EU funding, both as leader and partner.

WEBSITE
http://www.hnutiduha.cz

MEMBERS:

EXAMPLE 5.85 – IRP12 – *Partners*

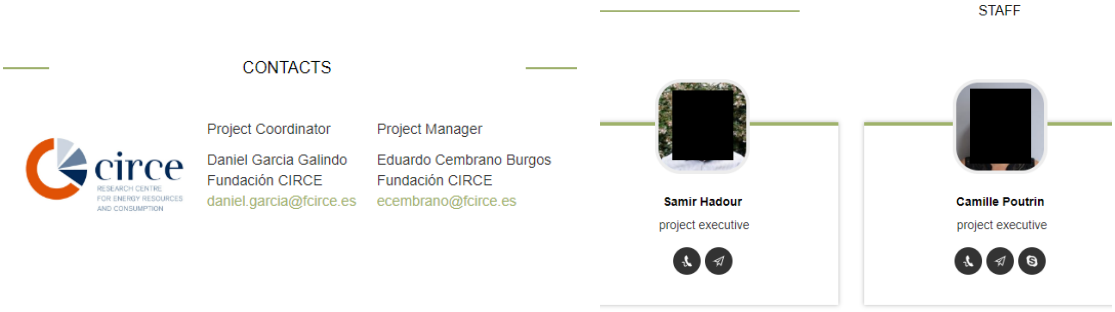
Also extensive to the *About* sections analysed in Subsection 5.2.1 above, the use of this interactional pragmatic strategy was explicitly elicited by one informant during the interview. While surfing together the research project website of their project, and specifically the *Partners* section, he was requested to suggest what strategies they used to deploy, concluding that:

> Lo que estoy viendo así a primera vista es el uso de negritas, que te quiere destacar las palabras más importantes. La página quiere que en un golpe de vista seas capaz de identificar el uso de *bullets*, y que seas capaz de identificar rápidamente de qué va el proyecto, cuál es el objetivo que desea cumplir, por qué está alineado con las especificaciones de SPIRE, que es una red de proyectos de investigación.
>
> [What I'm seeing at first sight is the use of bold font, which is intended to enhance the most important words. The webapge makes you be able to spot at a glance the use of bullet points as well as to rapidly identify what the project is about, which the desired objective to be attained is, why it is alligned with the specifications of SPIRE, which is like a network of research projects.]
>
> (Informant 3 – IRP21)

The second most relevant interactional pragmatic strategy in the *Partners* section is **[INT01] "Guiding the audience to perform an action"** (32%), which is featured in the snapshot in Example 5.86. In line with the objectives of getting to know the partners better, two final aspects are boosted for every partner within the consortium. This is undertaken through the inclusion of a link in which users' navigating path is further paved, and a map in which users can locate the partner's place of origin. [INT01] is encapsulated in the link, of an external type, where users may check the institutions. Other ways of instantiating this strategy is by inserting connections between partners and work packages through the use of internal links to that section, as well as by redirecting the audience to the researchers' bio statements, primarily through external links to their personal websites or to their profiles in institutional ones.

EXAMPLE 5.86 – IRP07 – *Partners*

[INT07] "Offering contacts for information" (12%) has been found to be the third top interactional pragmatic strategy in the sample of *Partners* sections analysed. It functions as a thread for users to reach the research consortium through individual members. To do so, the role of researchers is put forward next to their contact details. The strategy can be checked in some of the snapshots already discussed –like Example 5.76 and Example 5.82 above. The tendency within the *Partners* section is to clearly frame the strategy by signaling it as 'Contacts' or 'Staff', as ellucidated in the two examples below, retrieved from the same research project website. In the general webpage in which the project partners are listed, the logo of the coordinating partners is usually made visible (Example 5.87a). In the specific posts devoted to the individual partners within this web section personal pictures of the researchers are also typically enclosed (Example 5.87b). In this latter instance, it is noteworthy that not only e-mail addresses are provided, but also bidirectional ways of getting into contact by supplying phone numbers and enabling a face-to-face interaction through informal-based video platforms like Skype.



EXAMPLE 5.87a and 5.87b – IRP28 – *Partners*

Combinations of pragmatic strategies

Apart from the quantitative results discussed for the occurrence of informative, promotional and interactional strategies, it is interesting to observe potential patterns in which these pragmatic strategies are interspersed and maximised. Figure 5.4 sketches the prototypical structure of a *Partners* section within a research project website, and indicates possible combinations for an effective introduction of the project members.

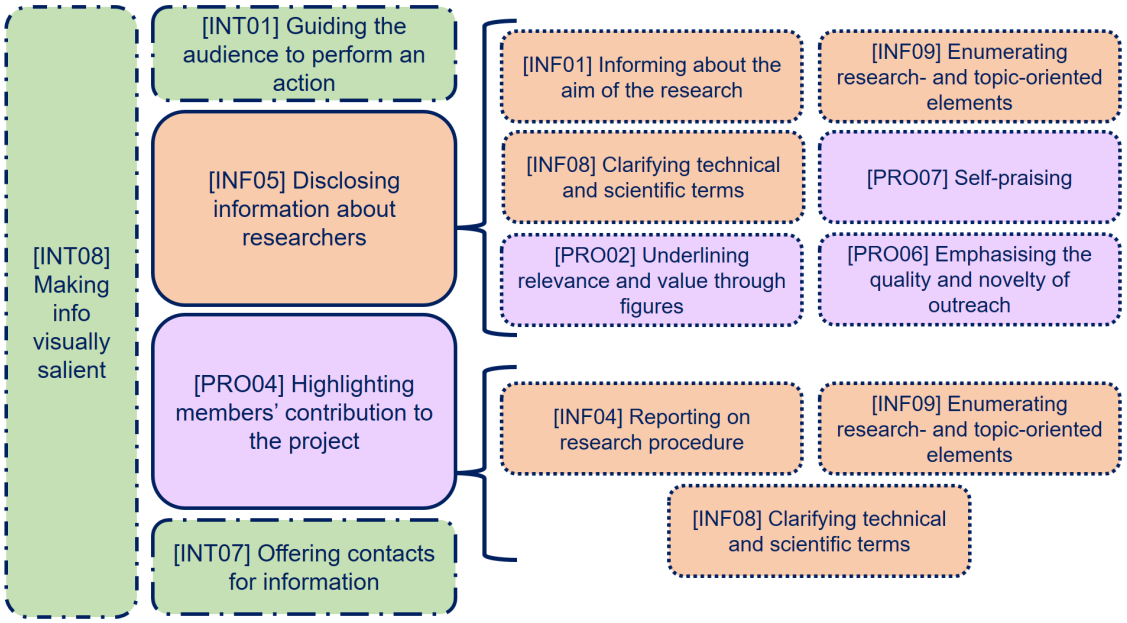


FIGURE 5.4. Prototypical patterns of pragmatic strategies in the *Partners* section of RPWs.

The basic backbone of the texts devoted to presenting partners is made up of two main strategies: [INF05] "Disclosing information about researchers" and [PRO04] "Highlighting members' contribution to the project". Permeating these, research groups typically enhance visual and typographic semiotic elements that help configure the website and direct users toward the key data to be consumed. Thus, [INT08] "Making information visually salient" cuts across the specific informative and promotional strategies mentioned, and contributes to research groups' intentions by adding emphasis and information. They regularly do so by including the logos of the project and partners' institutions, using full capitalisation of words, writing in bold to underline specific parts of the text, and using purposefully font and colour to frame parts of the webpage under structural and appealing headings. The extent to which [INT08] is deployed may depend on the research groups' motives and literacies, making its use very likely in *Partners* sections but very varied attending to different details of the project members. Two more interactional pragmatic strategies that tend to co-occur with [INF05] and [PRO04] are [INT01] "Guiding the audience to perform an action", which tends to be placed at the beginning of the *Partners* sections, and [INT07] "Offering contacts for information", which is normally found towards the end of the text. The former is employed to attract users' attention and trigger a course of action by inviting them to navigate under commands such as 'Click here' and 'Read more' –mostly through internal hyperlinks, but also possibly to external sites, as proved by the 7 *Partners* sections discarded for

the analysis. The later provides users with a straightforward way to reach the project members (in their different roles, such as coordinator, work package leaders, external researcher, etc.) through specific personalised data and e-mail addresses.

Figure 5.4 further shows how the strategies [INF05] "Disclosing information about researchers" and [PRO04] "Highlighting members' contribution to the project" actually encompass the realisation of other embedded strategies that play a meaningful role in conveying such intentions. In the case of [INF05], these strategies normally involve [INF01] "Informing about the aim of the research" –of the research project or of a particular partner institution–; [INF09] "Enumerating research- and topic-oriented elements", with the aim of illustrating and evidencing partners' areas of expertise, research topics, methodological approaches or topical keywords; [INF07] "Clarifying technical and scientific terms", specifically those related to notions that are intrinsically imbued in the partners' institutional and disciplinary background. On top of these informative pragmatic strategies, some promotional ones are also deployed in the texts devoted to *Partners* to amplify the effect of the two main strategies pinpointed. This is the case of [PRO02] "Underlining relevance and value through figures", which is used to render the credibility and reputation of the partners visible to the reader through numerical data about their institutions, their accomplishments and their capabilities; [PRO06] "Emphasising the quality and novelty of outreach", which is unfolded as a strategic way to value the effort made by the research consortium to transfer their knowledge and findings to society, hinting at how the research project can be beneficial; and [INT07] "Self-praising" (in this case overlooking external praise), which helps orchestrate the representation of the partners by boosting a face-saving and positive identity clarifying for users why the partner was chosen for a given investigation.

In the case of [PRO04], there are three subsidiary informative pragmatic strategies that help convey research groups' ultimate intention, which is to spread out how each partner will contribute to the project based on their qualities and strengths. Through [INF04] "Reporting on research procedure", the research group may want to state the role assigned to the partner within the project and at which stages it will be crucial that such partner takes action; through [INF09] "Enumerating research- and topic-oriented elements", research groups list the skills of the partners and their duties within the investigation; and through [INF07] "Clarifying technical and scientific terms", which is rather connected with theoretical notions and methodological concepts intrinsic to the research project, research groups try to expand users' knowledge about the partners and explain how the terms in question are related to the partners' responsibilities.

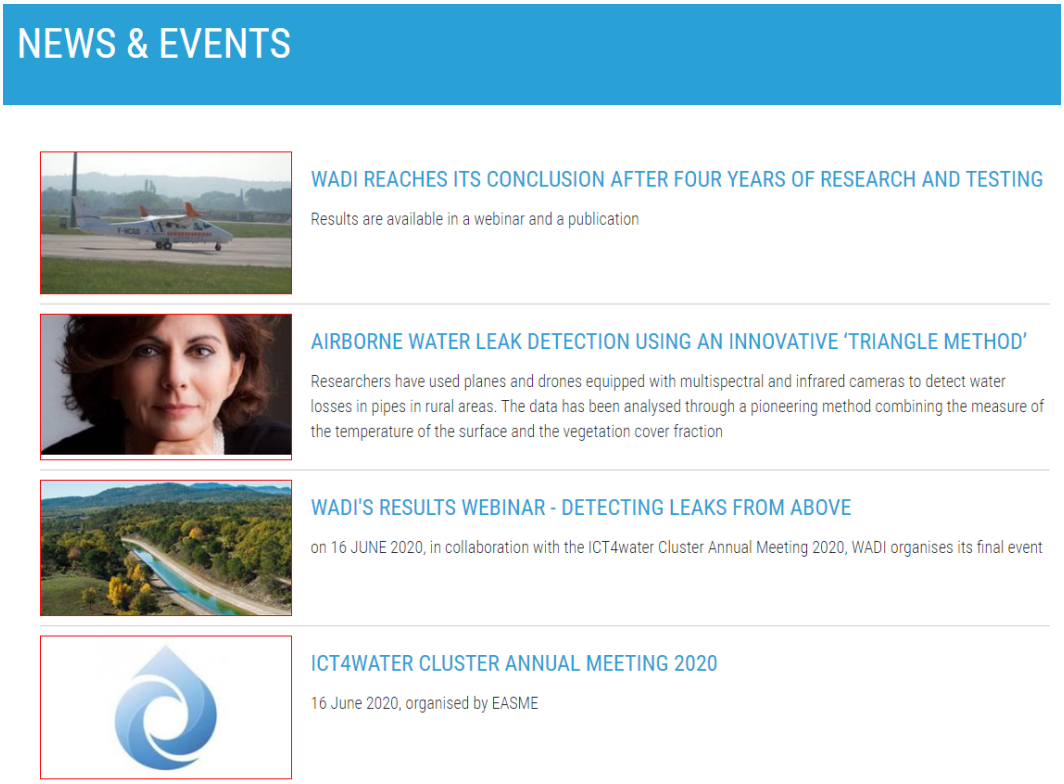
In this subsection, I have explored the pragmatic strategies deployed by research groups within the *Partners* section of the EUROPROwebs Corpus. A number of meaningful pragmatic strategies has been retrieved: within the scope of informative strategies, [INF05] "Disclosing information about researchers", [INF09] "Enumerating research- and topic-oriented elements" and [INF01] "Informing about the aim of the research"; within the scope of promotional strategies, [PRO04] "Highlighting members' contribution to the project", [PRO02] "Underlining relevance and value through figures" and [PRO07] "Acknowledging external praise and self-praise"; and within the scope of interactional strategies, [INT08] "Making information visually salient", [INT01] "Guiding the audience to perform an action" and [INT07] "Offering contacts

for information". Lastly, patterns have been proposed to understand how such strategies are combined to build the *Partners* section according to research groups' intentions.

5.2.3. The *News & Events* section

Through the *News & Events* section H2020 research groups regularly post updates of their projects and general information related to their investigation. As anticipated in Subsection 3.1.3, two websites within the EUROPROwebs Corpus were left out of the analysis of the *News & Events* sections, because they do not contain web-generated texts published by the research group to inform readers about the news of the project –see Appendix I. Instead, they just lead users to external websites that house information about events and activities that the project participated at (IRP13), or they list the names of events attended without offering more information and devote very specific news entries to crucial project information (IRP19). In any case, it was not feasible to collect a sample of 10 verbal texts with the communicative purpose that the *News & Events* sections normally entail and, thus, these project websites were removed from the analysis.

A representative way of organising this web section is shown in Example 5.88, where it is observable how the posts published are listed in reversed chronological order to place the most recent ones above, and three main elements are combined in each 'newsbite': the headline, the date of publication and the first words of the text to be read. In this general webpage that gives access to the individual posts, research groups sometimes attach pictures, too (see Example 4.10 above for another instance of this design).



EXAMPLE 5.88 – IRP06 – *News & Events*

The distribution of the data-driven pragmatic strategies is very consistent in the *News & Events* sections of the EUROPROwebs Corpus. This is reflected in the fact that, across the projects, many strategies are systematically employed in all the sections analysed, and the strategy that is least employed appears in 15 of the *News & Events* sections –see Appendix II. As follows, I look into the frequency of use of the pragmatic strategies according to the macrocategories.

Informative pragmatic strategies

The analysis of informative pragmatic strategies in the *News & Events* section reveals the deployment of several strategies with little differences of frequency among them (see Table 5.11). This may hint at research groups' desire to be descriptive and efficient in the presentation of project information, trying to make these texts sufficiently explanatory and reader-friendly. Yet, two strategies equally score the highest frequency (18%): [INF09] "Enumerating research- and topic-oriented elements" and [INF03] "Giving specific details about an event". At a higher distance, the third most meaningful strategy is found to be [INF05] "Disclosing information about researchers", however, closely followed by [INF06] "Presenting the content of outreach" and [INF08] "Clarifying technical and scientific terms" (11% each).

Informative pragmatic strategies	**Occurrences**	**Frequency**
[INF01] Informing about the aim of the research	113	8%
[INF02] Stating general background of the project	87	6%
[INF03] Giving specific details about an event	262	18%
[INF04] Reporting on research procedure	67	5%
[INF05] Disclosing information about researchers	173	12%
[INF06] Presenting the content of outreach	164	11%
[INF07] Explaining audiovisual elements	58	4%
[INF08] Clarifying technical and scientific terms	160	11%
[INF09] Enumerating research- and topic-oriented elements	264	18%
[INF10] Acknowledging research funding	110	8%
TOTAL	**1458**	**100%**

TABLE 5.11. Frequency of pragmatic strategies within the informative macrocategory in the *News & Events* section.

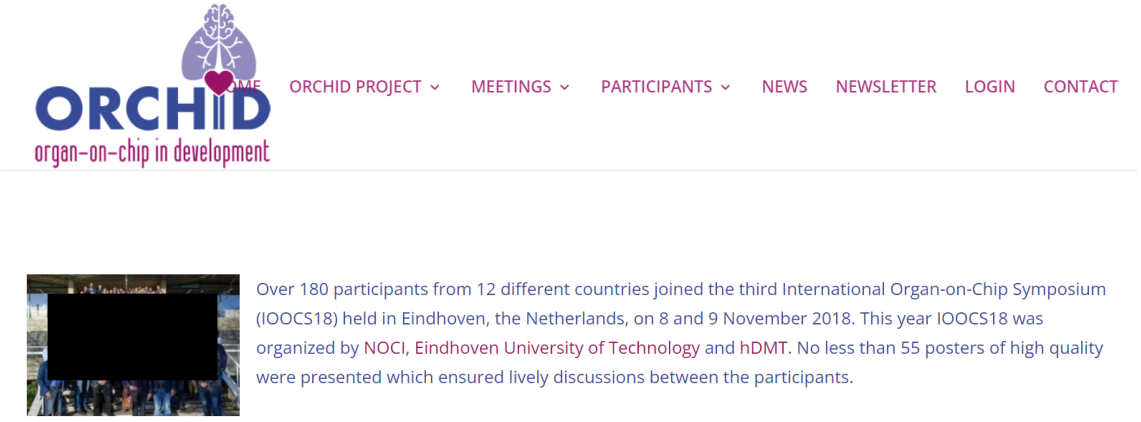
As the most prominent informative strategy, **[INF09] "Enumerating research- and topic-oriented elements"** (18%) is enacted in a similar way as was previously discussed in the *Partners* section. It serves to fulfil research groups' utmost communicative purposes, and thus it is introduced to list content words that may amplify the audience's knowledge and awareness of the project. In Example 5.89, the research group includes a concatenation of 'pre-modified biomass resources', which may likely be unknown to non-specialised readers.

Feasibili providing unused biomass in different regions of the EU

GreenGain partners are exploring promising genuine biomass resources from land management and conservation works in 7 model regions in Europe. Local companies, municipalities and public authorities are collaborating to identify those still underutilised resources and discuss the way to integrate them into the local and regional biomass markets. Pre-identified biomass resources in greenGain model regions are, among others, biomass residues from river, waterways and roadside cleaning, grass removed from lake shores, firewall infrastructure opening and maintenance, clearing of invasive vegetation in agricultural abandoned lands, vineyards and olive groves residues in landscape protected areas, and urban parks maintenance.

EXAMPLE 5.89 – IRP09 – *News & Events*

On the contrary, and displaying the same frequency, **[INF03] "Giving specific details about an event"** (18%) is a crucial strategy in the *News & Events* section and most of the times cuts across the whole post published, instead of contributing to other strategies. Research groups' intention is to report usually on academic activities such as conferences, workshops, seminars and meetings, but also on social events like fora, fairs and visits to places. Two examples are offered below: Example 5.90 pinpoints the strategy used to present an external event, in which the reader understands, in principle, that the project has not actively participated, while Example 5.91 accounts for the deployment of the strategy regarding an event which was organised by one of the research partners. It is primarily in this latter scenario that other embedded promotional and interactional strategies are interspersed to support the instantiation of [INF03], and this may lead readers to more readily understand that the pieces of news are about a 'project' event.



ORCHID
organ-on-chip in development

ME ORCHID PROJECT MEETINGS PARTICIPANTS NEWS NEWSLETTER LOGIN CONTACT

Over 180 participants from 12 different countries joined the third International Organ-on-Chip Symposium (IOOCS18) held in Eindhoven, the Netherlands, on 8 and 9 November 2018. This year IOOCS18 was organized by NOCI, Eindhoven University of Technology and hDMT. No less than 55 posters of high quality were presented which ensured lively discussions between the participants.

EXAMPLE 5.90 – IRP14 – *News & Events*

09-11-2017 / 1st Brokerage event in Greece

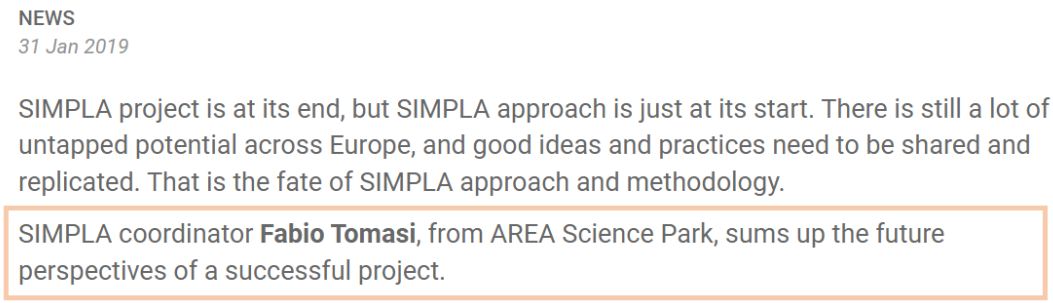
GAIA EPICHEIREIN SA on November the 09th, taking advantage of the wide attendance concerning the 4th Pan-Hellenic Congress, organized a brokerage event fully dedicated to SCOoPE project. In this event, SCOoPE**was presented in large scale in Greece for the first time.**

During this event, **the projects' concept and its main** objective, the **Benchmarking analysis of the energy consumption about 8 Greek Cooperatives, as well as the Greek cluster and Collaborative Energy Management Systems** were presented to more than 80 participants, an audience consisted of agribusiness professionals, agronomists, university faculty & students, representatives from Greek cooperatives. After the presentation, discussions concerning the project took place, with a lot of questions from the attendants which led to fruitful conclusions and information for the future activities of the project.

The Agenda of the Event was:
10:30 – 13:30 *Saving COOPerative Energy*
« Presentation of Gaia Epicheirein »
«Presentation of the projects' concept and its main goals»
« Benchmarking analysis of the energy consumption at the 8 Greek Cooperatives of the project»
«Greek cluster and Collaborative Energy Management Systems»
«Questions and Answers»

EXAMPLE 5.91 – IRP15 – *News & Events*

In third place was found to be **[INF05] "Disclosing information about researchers"** (12%), which seems to work in alliance with [PRO04] "Highlighting members' contribution to the project". In Example 5.92, the informative strategy is included through a non-defining relative clause that lets users know who the researcher is: 'SIMPLA coordinator', coming from one of the institutions in the consortium, 'from AREA Science Park'. Consequently, it is shortly instantiated and is subsumed to more holistic intentions on the part of the research group, namely [PRO04], just mentioned, or [PRO08] "Accounting for project producitivity".



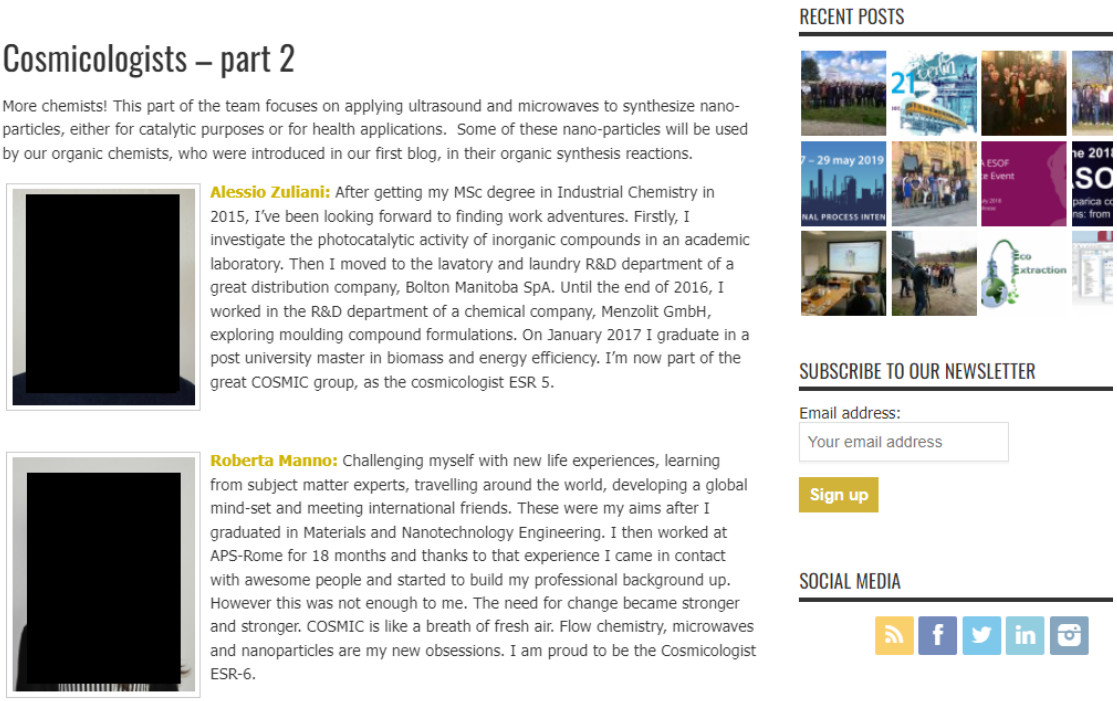
NEWS
31 Jan 2019

SIMPLA project is at its end, but SIMPLA approach is just at its start. There is still a lot of untapped potential across Europe, and good ideas and practices need to be shared and replicated. That is the fate of SIMPLA approach and methodology.

SIMPLA coordinator **Fabio Tomasi**, from AREA Science Park, sums up the future perspectives of a successful project.

EXAMPLE 5.92 – IRP16 – *News & Events*

Despite [INF05] normally being a complementary strategy to others, carefully looking into the data sample of *News & Events* has revealed cases in which it is the primary intention. Research groups may want to devote whole posts to the introduction of its individual researchers (Example 5.93). Evidenced in the intertextual reference in the heading, this post is part of a bigger sequence where researchers have been presented not all at once, probably as a way to attain sustained interest from diversified users and to feature the incorporation of new researchers into the project team.



Cosmicologists – part 2

More chemists! This part of the team focuses on applying ultrasound and microwaves to synthesize nano-particles, either for catalytic purposes or for health applications. Some of these nano-particles will be used by our organic chemists, who were introduced in our first blog, in their organic synthesis reactions.

Alessio Zuliani: After getting my MSc degree in Industrial Chemistry in 2015, I've been looking forward to finding work adventures. Firstly, I investigate the photocatalytic activity of inorganic compounds in an academic laboratory. Then I moved to the lavatory and laundry R&D department of a great distribution company, Bolton Manitoba SpA. Until the end of 2016, I worked in the R&D department of a chemical company, Menzolit GmbH, exploring moulding compound formulations. On January 2017 I graduate in a post university master in biomass and energy efficiency. I'm now part of the great COSMIC group, as the cosmicologist ESR 5.

Roberta Manno: Challenging myself with new life experiences, learning from subject matter experts, travelling around the world, developing a global mind-set and meeting international friends. These were my aims after I graduated in Materials and Nanotechnology Engineering. I then worked at APS-Rome for 18 months and thanks to that experience I came in contact with awesome people and started to build my professional background up. However this was not enough to me. The need for change became stronger and stronger. COSMIC is like a breath of fresh air. Flow chemistry, microwaves and nanoparticles are my new obsessions. I am proud to be the Cosmicologist ESR-6.

RECENT POSTS

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Email address:

Your email address

Sign up

SOCIAL MEDIA

EXAMPLE 5.93 – IRP04 – *News & Events*

Promotional pragmatic strategies

The observation of pragmatic strategies within the promotional macrocategory uncovers the saliency of three strategies in particular, which are very close to each other in terms of frequency (Table 5.12). These are [PRO02] "Underlining relevance and value through figures" (16%), [PRO04] "Highlighting members' contribution to the project" (16%) and [PRO08] "Accounting for project productivity" (15%). As the examples below will show, the basic difference may lie in the fact that [PRO02] is normally deployed to support the realisation of other further-reaching strategies, such as [INF03] "Giving specific details about an event" (see Example 5.90 above) [INF01] "Informing about the aim of the research" and [PRO06] "Emphasising the quality and novelty of outreach", to name a few of them. Instead, [PRO04] and especially [PRO08] are geared towards stating throughout the whole post in the *News & Events* section how the project is being active and advancing in its research. On the whole, the frequency of all 9 promotional strategies in the *Partners* section is much more balanced than the frequency encountered for informative strategies (see Table 5.11 above) and interactional ones (see Table 5.13 below).

Promotional pragmatic strategies	Occurrences	Frequency
[PRO01] Stating the benefits and impact of project research	135	11%
[PRO02] Underlining relevance and value through figures	195	16%
[PRO03] Hyping expected data and accomplishments	108	9%
[PRO04] Highlighting members' contribution to the project	187	16%
[PRO05] Spreading a piece of output	37	3%
[PRO06] Emphasising the quality and novelty of outreach	128	11%
[PRO07] Acknowledging external or self-praise	142	12%
[PRO08] Accounting for project productivity	184	15%
[PRO09] Claiming a project milestone	83	7%
TOTAL	**1199**	**100%**

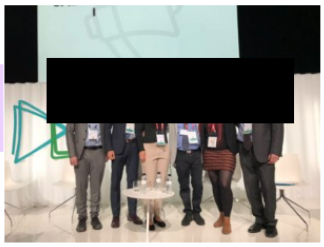
TABLE 5.12. Frequency of pragmatic strategies within the promotional macrocategory in the *News & Events* section.

Figures are resorted to when research groups want to impress the readership and underline how relevant an activity or an achievement is. This is the intent coveyed by the stratgy **[PRO02] "Underlining relevance and value through figures"** (16%). Taking a look at Example 5.94, a specific paragraph within the news text is included to arrange the numerical data that evince the 'impact of this forum', which is naturally related to the development of the research project. In this instance, it is noticeable how [PRO02] shows a pragmatic intention that supports the overriding pragmatic strategies deployed throughout the web section.

TRIBE's innovations on ICTs at the Smart City Expo World Congress

The city of Barcelona hosted a new edition of the Smart City World Congress, one of the largest events for smart cities projects in the context of urban development.

More than 18.750 attendees, 675 exhibitors and 420 speakers are some of the key figures that describe the impact of this forum, which is supported by European, Spanish and regional institutions and public administrations.



The congress addresses several aspects of the smart cities, from policy and planning aspects to technological developments on digitalization, monitoring or simulation
CIRCE, project coordinator, was responsible of presenting to the audience the general scope of the project and its main achievements.

The presentation focused on the tools that the project is both using and developing to empower a more energy efficient attitude of the users of public buildings.

In addition, attendants could also get to know the latest version of the social videogame, which has been released recently.

Downloads can be found at the following link: http://www.tribe2020.eu/
The conference presentation is available here: http://tribe-h2020.eu/wp-content/uploads/2017/11/SCEWC2017_TRIBE-ppt.pptx

EXAMPLE 5.94 – IRP18 – *News & Events*

The enactment of **[PRO04] "Highlighting members' contribution to the project"** (16%) in the *News & Events* section is different from the one explained in relation to the *Partners* section, where it was also one of the top-three pragmatic strategies employed –see Table 5.9 above. Whereas in the *Partners* section it was mainly the role and responsibility of the partner within the team that was brought to the fore, in the pieces of news and events research groups put a spotlight on the particular actions, decisions and productions of the team members, many times as part of the evidence provided to communicate how the project is progressing. Thus, the

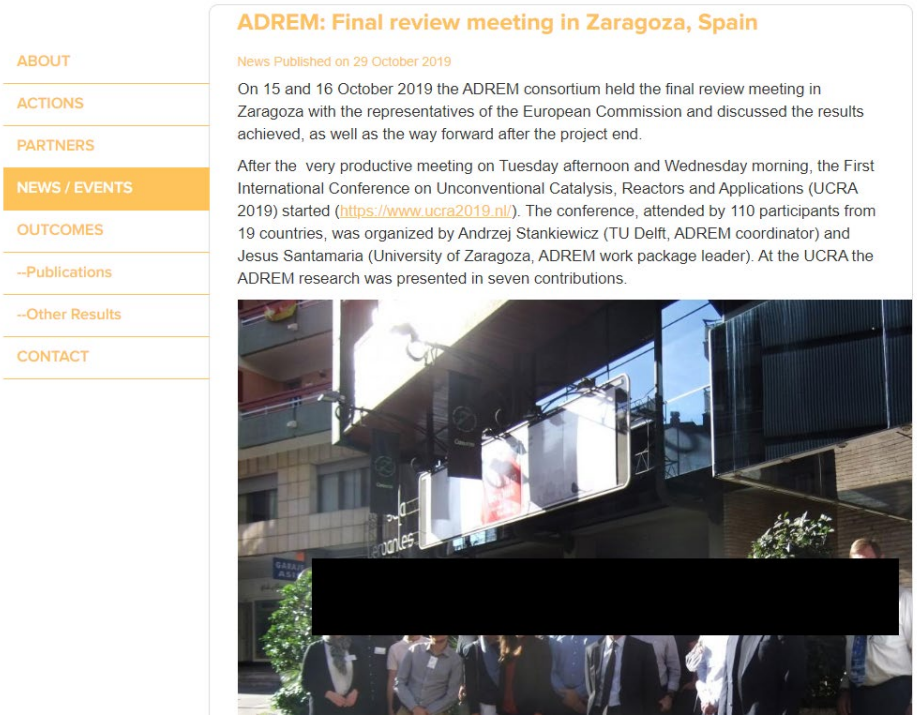
pragmatic intention of [PRO04] is equally deployed in both web sections; however, it is discursively distinct depending on where it is hosted, either in the *Partners* or the *News & Events* section. Example 5.95 comprises the use of [PRO04] at the end of a news post, where individual researchers and institutional project partners are given credit for their performances within the project.

The TBVAC2020 project meeting provided the first results of R&D activities, including vaccine discovery, preclinical model development, preclinical development of TB vaccine candidates, clinical evaluation of TB vaccine candidates, and biomarkers of immunity and protection. During the vaccine discovery session updates were provided on novel subunits as potential vaccine candidates and on genetically engineered live mycobacterial candidates including attenuated M. tuberculosis mutants, and new delivery strategies – new adjuvants, mucosal prime-boost models, adenoviral vector systems – were presented. Model development and refinement efforts and head-to-head vaccine candidate evaluation in various standardized animal models were reported. The latest findings on preclinical stage candidates, including HBHA, BCG Δzmp1, and PPE15 based candidates, was presented in specific preclinical sessions. Developments on the design and selection of candidate TB vaccines for an upcoming comparative clinical Phase I evaluation were presented. Partners in the establishment of global portfolio advisory committee expounded on stage gating and priority setting strategies to support the global effort towards the development of improved TB vaccine regimen. During the correlates of protection session promising diagnostic biomarkers were presented with the potential to discriminate active TB from latently infected individuals, as well as promising correlates of risk of developing TB. These markers/correlates shall allow for targeted interventions and risk stratification of cohorts for clinical studies.

The Executive Director TBVI and the Chair of the TBVAC2020 project were pleased to announce during the meeting that two new industry partners, GSK and Transgene SA, are joining the TBVAC2020 consortium. GSK will bring its combination vaccines for prime-boost or co-administration strategies into the project, while Transgene will provide to the consortium its prophylactic/ therapeutic vaccine candidate based on MVA delivery of multiple Mtb antigens covering specific metabolic states during infection (active replication, dormancy, resuscitation). GSK and Transgene SA bring complementary expertise and add another dynamic to the consortium, contributing to the diversification of new vaccine candidates through the vaccine pipeline.

EXAMPLE 5.95 – IRP17 – *News & Events*

The third category in terms of relative frequency within the *News & Events* sections of the EUROPROwebs Corpus is **[PRO08] "Accounting for project productivity"** (15%), which normally permeates all the entries containing the texts. Within this, other informative, promotional and interactional subsidiary strategies are intermingled to reinforce its pragmatic intention and expand its force towards other directions. Example 5.96 stands for one of these scenarios:



EXAMPLE 5.96 – IRP21 – *News & Events*

The conscious disclosure of project productivity in the posts stored in the *News & Events* section was emphasised in the semi-structured interviews by most informants. Moreover, they unconsciously made connections with the deployment of other strategies in this webpage, such as [PRO05] "Spreading a piece of output" –scoring a 13% occurrence within the promotional macrocategory– and [INT03] "Inviting the audience to consume research project output", which will be discussed below:

> Tanto la sección de noticias como la de *outcomes* al final te están dando información sobre las conclusiones y avances del proyecto. Además, están interrelacionadas, porque la de noticias te cuenta qué hay de nuevo y muchas veces enlaza a la sección de *outcomes,* donde tú puedes encontrar el entregable y el informe concreto y donde puedes consultar en profundidad el tema que se ha investigado.
>
> [Both the section devoted to news and to outcomes in the end are giving you information about the conclusions and advancements of the project. Besides, they are interrelated, because the *News & Events* section tells you what is new and many times it is linked to the *Outcomes* section, where you can find the concrete deliverable or report and where you can consult in depth the topic that has been researched.]
>
> (Informant 8 – IRP10)

Interactional pragmatic strategies

The analysis of the macrocategory of interactional pragmatic strategies unveils the prevalence of two strategies over the rest (see Table 5.13): [INT08] "Making information visually salient" (29%) and [INT01] "Guiding the audience to perform an action" (25%). They lead the ways in which research groups increase the dialogicity and interactivity of their pieces of news and events. After them, two other strategies share the same frequency (10%): [INT03] "Inviting the audience to consume research project output" and [INT04] "Fostering networks". Therefore, for this macrocategory, four strategies will be commented on as follows.

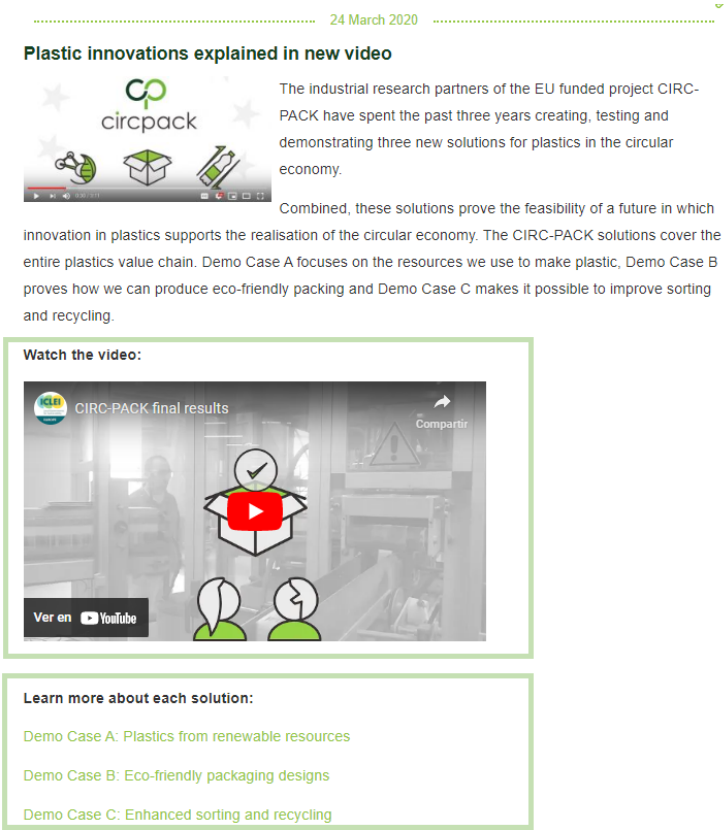
Interactional pragmatic strategies	Occurrences	Frequency
[INT01] Guiding the audience to perform an action	283	25%
[INT02] Engaging the audience to participate in the project	87	8%
[INT03] Inviting the audience to consume research project output	118	10%
[INT04] Fostering networks	111	10%
[INT05] Praising and thanking others	82	7%
[INT06] Hooking the audience	92	8%
[INT07] Offering contacts for information	38	3%
[INT08] Making information visually salient	325	29%
TOTAL	**1136**	**100%**

TABLE 5.13. Frequency of pragmatic strategies within the interactional macrocategory in the *News & Events* section.

The most frequent interactional pragmatic strategy in the posts published in the *News & Events* section is **[INT08] "Making information visually salient"** (29%). As can be seen in Example 5.97, [INT08] is instantiated through the use of borders to classify parts within the text. A first border is used to box the heading of the post in blue, whereas a second border is framed to introduce the main summary or implication from the piece of news. The use of full capitalisation is remarkable in both cases together with the insertion of very large inverted commas in the case of the subheading. Furthermore, the final statement of the post where [INT01] "Guiding the audience to perform an action" is encapsulated is combined with making the information striking. Not only is the text centred, as opposed to the main body of the post, but it is also written in blue colour and bold font. This typographical combination of features may definitely make users place their attention there first. It should be noted that in this example, the blue colour in the subheading directly underlines the insertion of a hyperlink, although this is rather an exception in the data sample explored in the EUROPROwebs Corpus.

EXAMPLE 5.97 – IRP30 – *News & Events*

Next, **[INT01] "Guiding the audience to perform an action"** (25%) is quintessential in the deployment of pragmatic intention in the *News & Events* section. It helps research groups address users with the purposes of interweaving the content of the project website, offering expanding information hosted in external sites and expanding the shared knowledge about their investigation. The strategy may be instantiated with a clear locutionary force, thus resorting to the use of directives and discursively introducing imperatives –as is illustrated in the previous example and observable in Example 5.98 in the phrases 'Watch the video' and 'Learn more about each solution'.

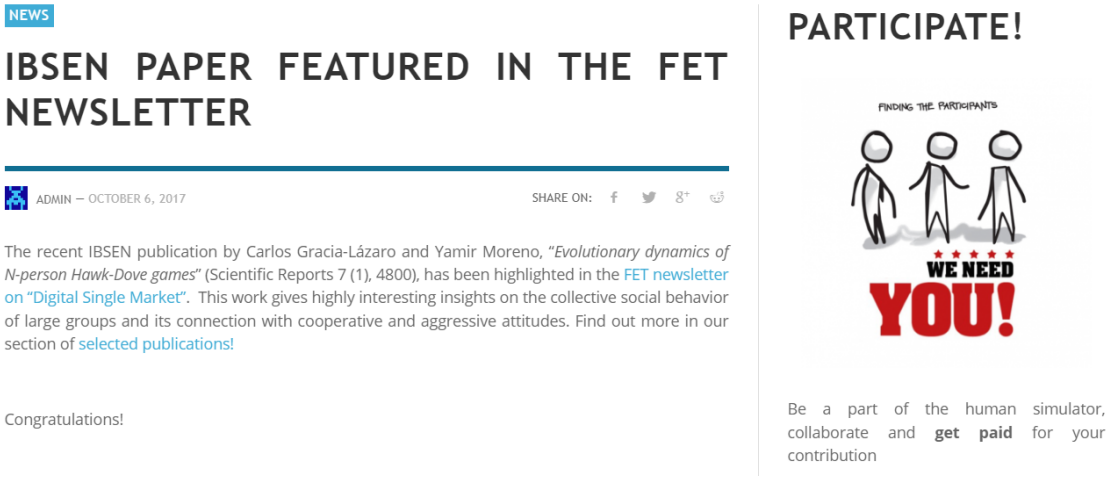


EXAMPLE 5.98 – IRP03 – *News & Events*

Yet, the realisation of [INT01] can also be carried out via more implicit mechanisms, where the digital affordance of hyperlinking points at research groups' intention, but does not force, linguistically speaking, users to take a course of action. In Example 5.99, this latter scenario is represented, marked by the use 'here' twice (as a metadiscursive endophoric marker) and the hypertextual interconnection housed in 'webpage' (where information other than the key details presented in the posts are available).

EXAMPLE 5.99 – IRP12 – *News & Events*

The third position of most frequent interactional strategy in the *News & Events* sections is jointly occupied by **[INT03] "Inviting the audience to consume research project output"** (10%) and **[INT04] "Fostering networks"** (10%), which practically display the same occurrence. When research groups invite page viewers to read their output, the digital affordance of hyperlinking is typically employed. This can be maximised through internal hyperlinks, where readers are driven to parallel sections –entitled *Output, Outreach, Publications* –see a list of labels in Table 3.2–, as much as through external hyperlinks, where the source of information is outside the RPW. Example 5.100 is representative of both types of hyperlinking, since the first one leads to a newsletter authored by other researchers where the project has included a paper, and the second one takes the reader to consult other outputs in the *Publications* section of the RPW.



EXAMPLE 5.100 – IRP11 – *News & Events*

In turn, networks are frequently pursued, to a certain extent surprisingly, in the textual instantiations of the pieces of news and events. Example 5.101 hints at two realisations of such interactional pragmatic strategy. The first one, mainly located in the second paragraph, concerns the belonging of the project to a wider framework for research innovation and dissemination. To that respect, the *up* axis is addressed (see Figure 5.1), in that the project is situated under the scope of such a network. In a way, making such reference acknowledges the accountability of the project towards this bigger enterprise. The second case, deployed in the final paragraph of the screenshot, focuses on bridging the relationship with projects that share complementary disciplinary fields, and therefore touches upon the *out* axis. As the research group that published the text claims in the example, this interactional intention is targeted at 'sister projects', making their names public and mentioning them explicitly in the pieces of news.

In order to take part in the EUSEW 2016, TRIBE presented an abstract that was accepted to be exhibited during the poster sessions. This work summarized its main activities and objectives, including a brief description of the 5 pilots involved in the project.

In addition, TRIBE was also one of the participants of the "Networking Village", a space built to foster information sharing and establish new synergies between European stakeholders, which runs in parallel with the main Policy Conference.

During this part of the congress, TRIBE was provided with a "Networking slot". At this point attendants were able to get to know more about the project, and even some preliminary material regarding the videogame.

The person in charge of acting on behalf of TRIBE during all these activities was Eduardo Cembrano, member of the coordination team of the project, who in addition, was interviewed by the EUSEW organization with regard to the objectives of the project.

Another important positive result of TRIBE's participation was the collaboration with its sister project, "EnerGAware" both of which joined forces to disseminate the projects' activities and meet new stakeholders.

EXAMPLE 5.101 – IRP18 – *News & Events*

Interestingly, associations have been made between the occurrence of [INT04] "Fostering networks" and the actual use made by research groups themselves of RPWs other than their own. The interactional potential of fostering networks (in this case along the *out* axis) was touched upon in the ethnographic study, where one informant hinted at the research group's fluent navigation through the websites of other research projects. This may suggest that research groups actually consider other research groups as part of their targeted (imagined) audience, as highlighted by one of the informants, and are likely interested in making these connections explicit.

> Como investigadores consultamos webs de proyectos, no de forma masiva, pero puntualmente. Así que también otros investigadores podrían ser parte de esa potencial audiencia.
>
> [As researchers, we consult project websites, not massively, but at some specific points. So other researchers could indeed be part of that potential audience, too.]
>
> (Informant 2 – IRP20)

Combination of pragmatic strategies

Looking into how these strategies are rhetorically combined to make up the texts included in the *News & Events* section, a proposal of three representative patterns endorsed by research groups in this digital practice is put forward in Figure 5.5.

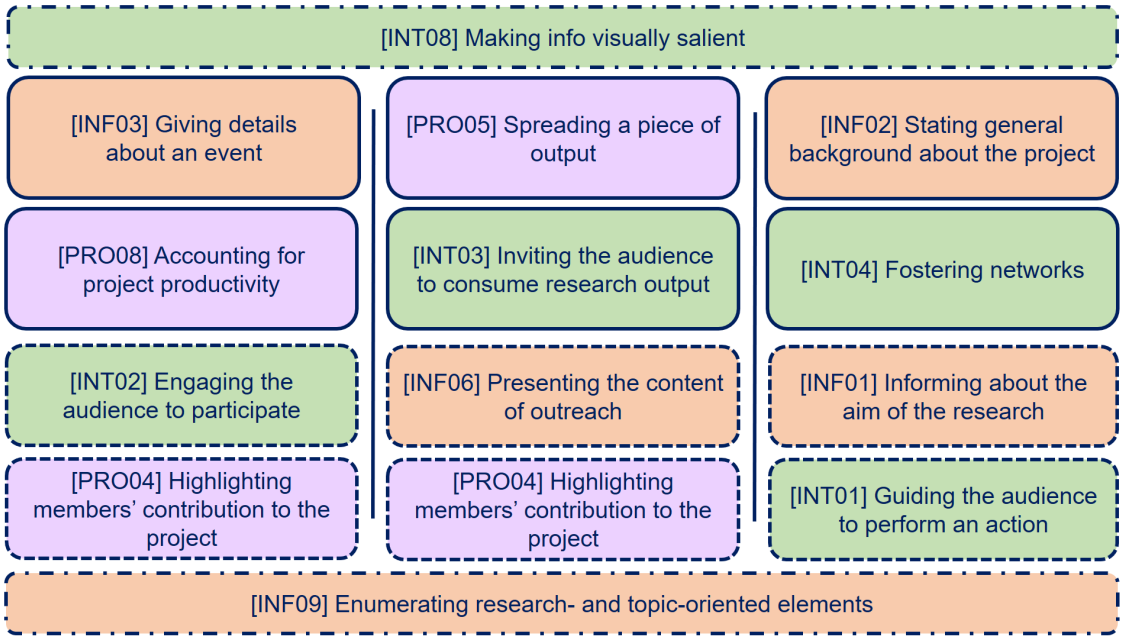


FIGURE 5.5. Prototypical patterns of pragmatic strategies in the *News & Events* section of RPWs.

Three main tendencies have been found for the discursive and pragmatic construction of posts in the *News & Events* section. In all of them, there are two permeating strategies that are optionally included: an interactional one, [INT08] "Making information visually salient", and an informative one, [INF09] "Enumerating research- and topic-oriented elements". They assist in instantiating research groups' utmost intentions and expand the illocutionary force of some of the overriding pragmatic strategies. A first structure for *News & Events* texts is concerned with the conveyance of productivity and active participation of the research project. In this pattern [INF03] "Giving specific details about an event" and [PRO08] "Accounting for project productivity" are situated at the same level and carry the main pragmatic force intended in the post. Two other strategies tend to be introduced, more optionally, within the former. First, [INT02] "Engaging the audience to participate in the project" is employed to attract users' attention and involve them either in the prospective activity the project will participate at or in a post-event activity, such as giving their feedback. Second, [PRO04] "Highlighting members' contribution to the project" is deployed whenever credit is given to the project partners. Their efforts are enhanced, building on their digital individual identity over directly emphasising the collective identity of the project. This strategy is omitted whenever the research group wants to remark the joint endeavours undertaken. In those cases, the visibility is transferred to the project as a collective entity.

A second textual design of the *News & Events* section is geared towards the circulation of output produced and/or published by the research project, accompanied by the explicit attempt to drive the audience to consume it. It is then a combination of promotional and interactional intents that constitute the backbone of this kind of posts, specifically through the strategies [PRO05] "Spreading a piece of output" and [INT03] "Inviting the audience to consume research project output". Depending on the level of detail that the research group aim to provide, two subsidiary pragmatic strategies complement the main ones. First, [INF06] "Presenting the content of outreach" refers in this sense to the conscious attempt to summarise the content and the

conclusions derived from the project output. It normally reports on the implications of the study for the scientific community, indicating the main findings and implications that can be consulted in the publications or materials announced. Second, and related to the former, [PRO04] "Highlighting members' contribution to the project" places the lens on the project member(s) responsible for the output circulated. This tends to be the case, especially, of 'primary output' (Puschmann 2015), such as journal articles and conference presentations, where the individual identity of researchers is favoured, giving details about the name, affiliation and contact information of the author(s). Internal links are also sometimes inserted to direct users to the *Partners* section of the research project website, where data about the partners are amplified. In the event that it is reports, guidelines and deliverables that are being spread out, this strategy is not foregrounded and the institutional identity of the project prevails.

These first two models of discursively designing the *News & Events* section and pragmatically deploying researchers' intentions are in agreement with some reflections made by the informants in the semi-structured interviews undertaken. When asked about which website sections were updated most regularly, one of the researchers pointed out:

> Publicaciones, sobre todo, y luego notas de prensa; cuando empieza un ensayo clínico, cuando envían ellos notas de prensa, lo que se suele alojar en la página de noticias y eventos. También hay eventos ahí, todos los congresos, etcétera.
>
> [Publications, above all, and then press releases; when a clinical study begins, when press releases are sent, all of which tends to be housed in the webpage for news and events. There are also events there, all the conferences, and so on.]
>
> (Informant 1 – IRP17)

A final recurrent option research projects endorse in the digital practices deployed in the *News & Events* section revolves around the publication and commentary of project-related topics and facts. This sort of posts is clearly geared towards the construction of shared knowledge with specialised and lay users, in alliance with Engberg and Maier's (2015b) take on 'knowledge building processes'. Consequently, [INF02] "Stating general background about the project" is the predominant strategy and is usually accompanied by [INT04] "Fostering networks". In other words, when research groups do not post about their projects, they resort to information in their disciplinary background and mention other projects conducting ambitious work on topics that are of their interest. Such an interactional pragmatic strategy is evidenced, on the one hand, in the straightforward reference to these projects and the insertion of links for users to navigate easily and, on the other, in the attempts made by the research group to underline the similarities with these other projects and the benefits of working towards the same direction. Other pragmatic strategies occur at this juncture between [INF02] and [INT04], and help strengthen the force they carry. [INF01] "Informing about the aim of the research" and [INT01] "Guiding the audience to perform an action" stand out to this respect. As for the former, research groups often include information about the aims of the related projects mentioned and take the opportunity of reminding the audience of their own goals. As for the latter, navigation routes open up in these posts, leading users to new sources of information and personalised websites of journals and organisations.

This subsection has investigated the use of pragmatic strategies in the *News & Events* sections of the EUROPROwebs Corpus. The frequency of pragmatic strategies has been researched, as in other project web sections, to observe the most salient ones according to research groups' intentions. Examples from the data sample have illustrated how they are instantiated in this specific generic practice. Alternative, coexisting patterns have been provided out of the combination of pragmatic strategies to comprehend how *News & Events* posts are designed, and how intention is conveyed in them, for the communication of research projects. Data from the informants have corroborated these patterns.

In the upcoming subsection of the present chapter, a deeper look is taken at the exploitation of multimodal elements within the layout of RPWs and how these elements are actually meaning-making devices that assist in conveying pragmatic intention in company of verbal information. Given the prominence of the visual mode in this webpage, a focused study on the *Homepages* of the EUROPROwebs Corpus was undertaken.

5.2.4. The *Homepage*: Synergies between pragmatic strategies and multimodal realisations

The *Homepage* of RPWs is the window through which information about the investigation and the research group is ideally accessed by users. As such, research groups attempt to make it explanatory, appealing and easy to navigate through. On top of verbal bits of information about the contents of the RPW, the visual mode is maximised more than in other web sections to accomplish those ends. These insights were suggested by one of the informants in the semi-structured interviews when asked about the *things* that he liked about the homepage of the research project:

> Yo, por mi parte, es una página bastante visual, entendida como que es bastante atractiva, ¿no? y que lanza nada más empezar ya el mensaje del proyecto, y como que genera interés al verla, ¿no? En su diseño… La página principal, sobre todo. Y la misma página principal es autocontenida, ya tiene toda la información y a través de ahí ya vas a lo que te interesa.
>
> [In my view, it is a pretty visual site, meaning that it is quite attractive, isn't it? And it sets right at the beginning the message of the project, and like it builds interest when you see it, doesn't it? In its design… The homepage, above all. And the very same main page is self-contained, it already contains all the information and then you go to what concerns you through it]
>
> (Informant 6 – IRP16)

The focused analysis of pragmatic strategies accounting for multimodal meaning-making processes in the *Homepages* of the EUROPROwebs Corpus showed a clear information distribution, reflected in salient clusters. Drawing broadly on Corona's (2021) analysis, six cluster location patterns were identified in their composition, as separable units with pragmatic potential encapsulated through both verbal and non-verbal modes. The prototypical sequence in the sample of *Homepages* comprises clusters labelled as (1) *Header*, (2) *Project information*, (3) *News & Events*, (4) *Outreach*, (5) *Partners* and (6) *Footer*. The salient pragmatic strategies identified in each of these clusters are presented in Table 5.14. As follows, I discuss each of the clusters by

bringing to the fore how the pragmatic macrocategories and strategies from the data-driven taxonomy are enacted through both verbal and visual resources.

Clusters in research project homepages	Top salient pragmatic strategies in the clusters
(1) ***Header***	[INF01] Informing about the aim of the research [INT01] Guiding the audience to perform an action [INF02] Stating general background of the project
(2) ***Project information***	[INF01] Informing about the aim of the research [INF04] Reporting on research procedure [PRO06] Emphasising the quality and novelty of outreach [INT04] Fostering networks
(3) ***News & Events***	[PRO08] Accounting for project productivity [INF03] Giving specific details about an event [PRO05] Spreading a piece of output [INF06] Presenting the content of outreach
(4) ***Outreach***	[PRO01] Stating the benefits and impact of project research [PRO06] Emphasising the quality and novelty of outreach [INT08] Making information visually salient [INT03] Inviting the audience to consume research project output
(5) ***Partners***	[INF05] Disclosing information about research members [INT01] Guiding the audience to perform an action [PRO07] Self-praising
(6) ***Footer***	[INF10] Acknowledging research funding [INT07] Offering contacts for information [PRO04] Highlighting members' contribution to the project

TABLE 5.14. Prominent pragmatic strategies in the clusters of *Homepages* within RPWs.

The (1) ***Header*** normally occupies the screen size before the user scrolls down or opts for a different navigation path. The pragmatic strategies deployed in this cluster show a combination of informative and interactional purposes. As the former, [INF01] "Informing about the aim of the research" is employed as a strategy by which research groups succinctly include a motto or summary of the project rationale in a prominent position and enclose low modality pictures at the background. [INF02] "Stating general background of the project" is foregrounded in headers by referring to concrete realities, materials and objects that help better understand what the project is about. Project logos also find their place in this cluster, in two principal positions: at the top, to convey an ideal meaning (Example 5.102) or on the left part, to highlight the addition of new information to be processed before other multimodal elements (Example 5.103). As for the interactional strategies, [INT01] "Guiding the audience to perform an action" is systematically located in the sites for action (Adami 2015) included in the headers, which mainly comprise three elements: 1) the top-level menu that gives access to the rest of the website sections, where users

can expand their interest and knowledge about the research undertaken; 2) optional social media buttons[28] that lead the user to appendant digital practices where to consume the project information in a more dynamic and ongoing way (Example 5.102); and 3) other clickable buttons facilitating users' navigation, encapsulated in a search bar and the access to a private area in Example 5.103.

More specifically, Example 5.102 displays the use of typography to highlight both the motto used to synthesise the project goal and the labels chosen for the menu. Green is chosen as the predominant colour for a project that investigates ways of reducing waste and becoming sustainable. This choice has implications for their collective digital identity, concurring with values typically associated to this colour (ecology, environment, nature). These associations exemplify how the meanings of this colour have been universally absolutised, even in decontextualised situations (Kress and van Leeuwen 2002).

EXAMPLE 5.102 – IRP03 – *Homepage*

The structure of the header is framed into four main parts, making use of negative space and borders to delineate them. The first one is devoted to the central position of the project logo. The menu is inserted right below on a dark green colour to foster its prominence within the header. The multimodal ensemble of the pictures portraying plastic bottles with the motto at the centre follows and occupies the biggest area. Such an ensemble displays the prototypical pattern of informative pragmatic strategies in the *Header*: [INF01] "Informing about the aim of the research" through the verbal mode in the motto, and [INF02] "Stating general background about the project" through the visual mode in the background picture. Eventually, there is a transition to white space, where the novelty and impact of the project are briefly stated to catch users'

[28] Out of the 30 homepages analysed, 10 do not have social media profiles (as discerned in Subsection 3.1.4) and therefore are absent in the design of their websites. 11 projects place social media buttons at the upper part of the header and 8 of them place them within the footer, depending on the prominence and salience research groups confer to social networking sites (1 project duplicates the icons devoted to SNS). The remaining 2 projects devote a specific central section to drive users to their social media.

attention. Here, the promotional strategy [PRO01] "Stating the benefits and impact of the project" is underlined, also serving as a transition for the next clusters.

Example 5.103 shows a different layout and framing of the multimodal elements, although the pragmatic intents displayed highly coincide with the previous example. [INF01] "Informing about the aim of research" is likewise encapsulated in the project motto occupying the central position below the project name. Yet, the strategy [INF02] "Stating general background of the project" is differently instantiated in this case: although there is a background picture, this has been blurred, so the strategy is rather emphasised by a carousel of low and high modality pictures included at the bottom of the *Header*. They serve to represent both project-related abstract and real concepts through allegorical and thematic pictures, respectively.

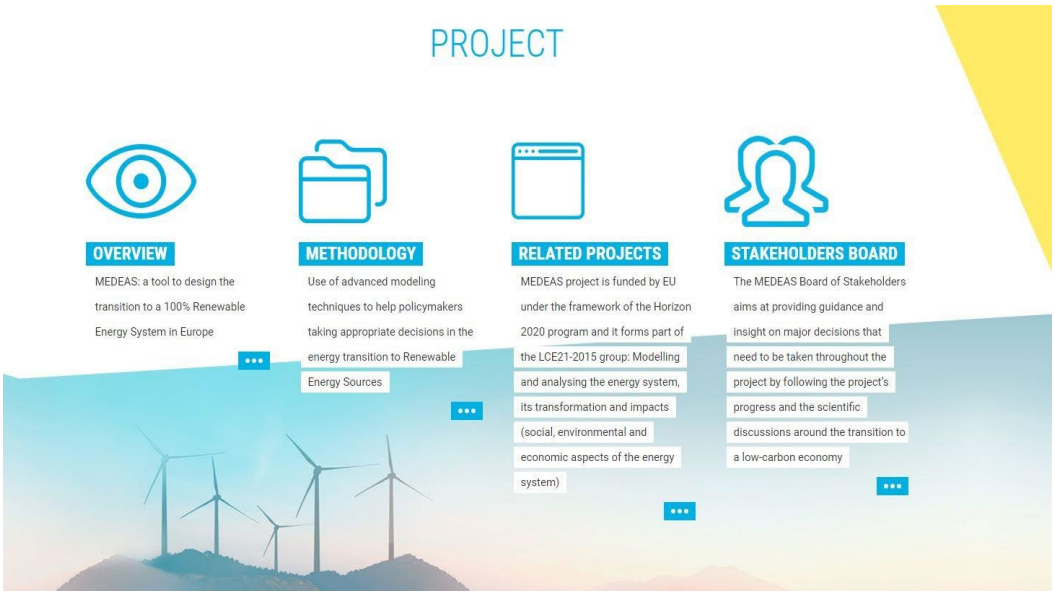
EXAMPLE 5.103 – IRP24 – *Homepage*

Additionally, a combination of yellow and blue is employed to make the header salient: while blue is used as a background colour, yellow is emphasised to make the project visible. This is performed in relation to the project logo, the project name and the button enabling access to more information about the research. It is through the sequence of images that the header finalises. As in Example 5.102, [PRO01] "Stating the benefits and impact of the project" is deployed, this time being placed in between the project name and the 'Read more' button to claim the need and benefits of the project investigation.

A more heterogeneous composition may be observed among **the cluster (2) *Project information***. Two main patterns have been found out. On the one hand, visual meaning-making devices may play a very purposeful role to reinforce and illustrate the project description (Example 5.104); on the other, they may also decrease in their saliency in favour of the verbal mode (Example 5.105). In this case, the *aboutness* of the project is detailed, disclosing specific objectives addressed, research partners involved and methodological stages followed. Consequently, the informative set of pragmatic strategies stands out clearly over the promotional one in this cluster. The multimodal ensembles inserted here support knowledge building processes, such as enhancement and expansion (Engberg and Maier 2020), for both specialised and non-specialised readers. The addition of internal hyperlinks leading users to other project website sections and pages is characteristic of the multimodal ensembles designed for this cluster.

Example 5.104 epitomises how this information is visually structured in columns headed by icons to quickly represent what users can find out if they follow those navigating paths. Information value clearly foregrounds the overview of the project, located on the left side, over other aspects of the projects like methodology and networking. In general, typography and colour

are also leveraged in the organisation of this cluster. In the example below, headings are included in capital letters upon blue rectangles to verbally name the web sections that will pop up when those internal hyperlinks are activated. Short verbal texts are introduced to encapsulate the gist of those sections and other blue rectangles are introduced at the end of the verbal texts to signal the sites for action available to the reader.



EXAMPLE 5.104 – IRP12 – *Homepage*

Informative strategies predominate in the 'Overview' and 'Methodology' ensembles. [INF01] "Informing about the aim of the research" is used to address the wide public and boost the visibility of the project, whereas [INF04] "Reporting on research procedure" occupies a different place within the cluster and is oriented towards specialised readers. By contrast, the ensemble 'Related projects' displays an interactional one ([INT04] "Fostering networks") and the 'Stakeholders Board' deals with a promotional one ([PRO06] "Emphasising the quality and novelty of outreach"). They do not aim at spreading project details, but at creating a community of projects and beneficiaries and demonstrating this to the user. [INT01] "Guiding the audience to perform an action" (interactional) cuts across the four ensembles, making users decide what they want to access. Finally, research groups remarkably include at the background of this cluster low modality images as a sort of topicalised framing devices –in this case showing some mountains and windmills.

The second pattern prominent in the corpus shows a different rhetorical page-flow (Bateman 2008), in which the project logo is very salient and usually framed on the left, and the rest of the cluster is devoted to an explanation of the project rationale. This is displayed in Example 5.105.

EXAMPLE 5.105 – IRP02 – *Homepage*

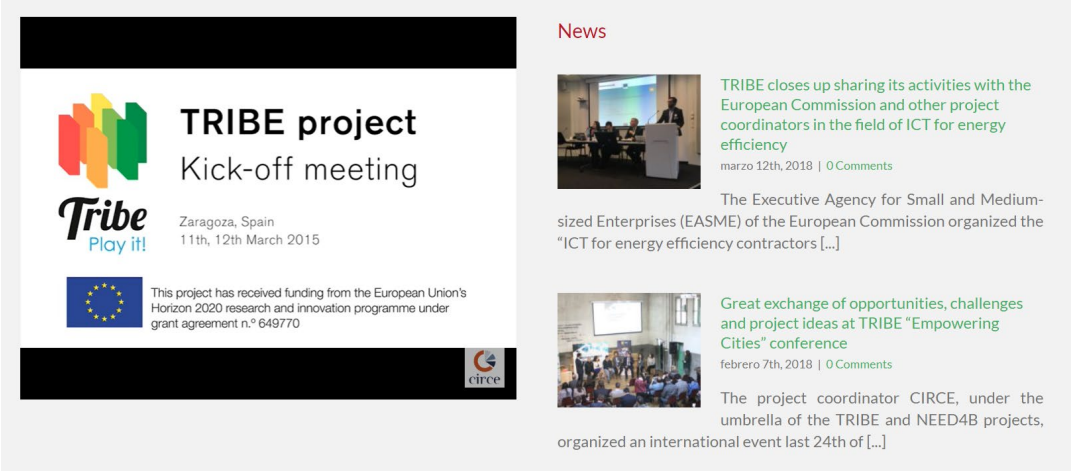
The predominant pragmatic strategies are [INF01] "Informing about the aim of the research" and [INF04] "Reporting on research procedure", as in the previous figure. Yet, the cluster is differently configured and assigns more salience (Kress and van Leeuwen 1996) to the verbal mode. What may strike users' attention are the two red buttons that link to other internal pages within the research project website: the *About* and *Partners* sections.

In the **(3)** ***News & Events*** **cluster**, the prevailing pragmatic macrocategory is promotional, and the strategies [PRO08] "Accounting for project productivity" and [PRO05] "Spreading a piece of output" particularly stand out. Some informative strategies complement the promotional ones, such as [INF03] "Giving specific details about an event" and [PRO05] "Presenting the content of outreach", but play a secondary role within the *Homepage* in general and in this cluster in particular. They will be amplified, instead, in the corresponding posts where the news and events are thoroughly reported. Extra multimodal ensembles are incorporated within these clusters like the feed from the project Twitter account (Example 5.106) and a promotional video (Example 5.107).

As Example 5.106 displays, grids can be used to introduce the newsbites in the *Homepage*. The clickable boxes are balanced in terms of weight, except for the latest piece of news that is granted a salient position at the top of the cluster. Such a configuration allows users to track down both the newsworthiness and the trajectory of the project, observing at a glance what the project has been working on. Date of the entries are included, headlines are underlined in bold and not much text is added after them. Low modality pictures are chosen in some cases to visually attract users.

EXAMPLE 5.106 – IRP16 – *Homepage*

Contrary to the general overview intended in the previous example, this cluster may convey a more specific and condensed multimodal configuration, relying to a greater extent on the visual mode. This is exhibited in Example 5.107, where the saliency of the different elements (e.g. the video, the newsbites, the pictures and the headings) is more prominent due to the simple structure of the cluster, framed into two proportional main areas.

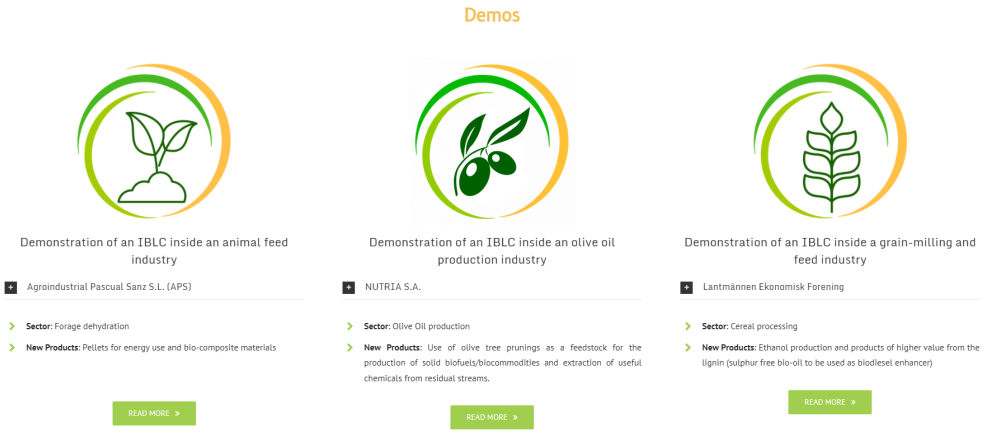


EXAMPLE 5.107 – IRP18 – *Homepage*

The project video is permanently fixed on the left side, and only the two latest news entries, which keep changing over time, are accessible through the *Homepage*. In exchange, headlines are more explanatory than in the previous example and the beginning of the separate news entries is provided after them to arouse users' curiosity. It is through the green headlines that hyperlinks are inserted for users to discover more on the project actions and events.

Concerning information structure, then, appealing, visual information is condensed on the left and verbal information is placed on the right for quick access and further navigation.

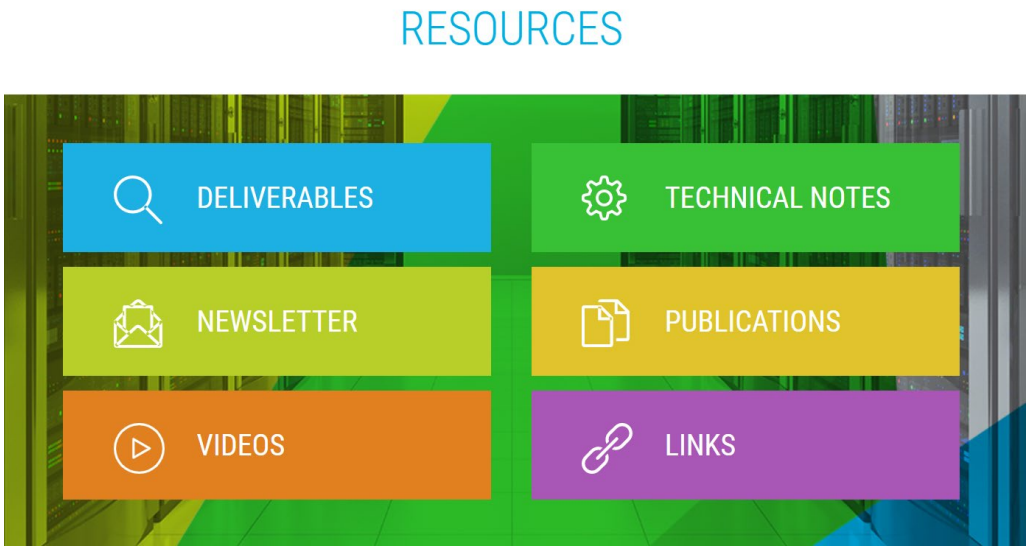
Clusters devoted to (4) *Outreach* are targeted at showing the implications and applications of the research for the scientific community and the society, in the shape of demos, pilots or outlets. Nonetheless, these clusters are not systematically introduced in all the *Homepages* from the corpus. When included, they tend to distribute the information through visual semiotic elements that revolve around the resources resulting from the research, as in Example 5.108, where symbolic images have been inserted to refer to the 'animal feed industry', the 'olive oil production industry' and the 'grain-milling and feed industry', respectively.



EXAMPLE 5.108 – IRP01 – *Homepage*

The cluster in the instance above is clearly divided into three multimodal ensembles with a recurrent configuration. Allegorical pictures are inserted to represent the areas of application and followed by an explanatory phrase. Then, the partner in charge of such demos is explicitly mentioned and their benefits reinforced by indicating once again the sector involved and the new products accomplished. Consequently, the *Outreach* cluster has a predominantly promotional nature, and is instantiated by pragmatic strategies like [PRO01] "Stating the benefits and impact of project research" and [PRO06] "Emphasising the quality and novelty of outreach". These can be intermingled with the invitation to users to consume research project output, in the shape of publications, guidelines and leaflets, among others. As in other examples, the green buttons with the capitalised phrase 'Read more' pushes users to click there and access the pertinent webpage where the full information of the project outreach can be retrieved, thus deploying the interactional strategy [INT01] "Guiding the audience to perform an action".

A distinct orientation of the cluster *Outreach* is found in Example 5.109, where a series of boxes offers users the possibility to consume the outlets of the research project. Depending on the project rationale and its disciplinary area, the transfer from the project to *the community* can be envisaged in different ways. Under the title 'Resources', the research group has collected in a hypermodal design the various outlets that they can share with users. Random colours seem to have been employed for the boxes, in which the labels for the outlets are inserted together with intuitive icons.



EXAMPLE 5.109 – IRP12 – *Homepage*

In this sort of submenu that functions as a repository, the overaching pragmatic strategy would be [INT03] "Inviting the audience to consume research project output". Regarding information value, outreach in the form of technical publications is offered at the top of the cluster ('Deliverables' and 'Technical notes'). In the middle, the research group has included regular outlets that concern the project development ('Newsletter') and the performance of its members ('Publications'). At the bottom, 'videos' and 'links' are hosted as resources that may disseminate information about the project in other ways. By observing the vertical dimension of the cluster, it appears that the 'ideal' and 'real' values, corresponding to the upper and bottom parts, coincide with meanings proposed by Kress and van Leeuwen (1996). The outreach addressed towards specialised audiences and produced for accountability purposes is placed at the top and gives a generalised gist of the scientific project, whereas the informative and practical outlets are positioned at the bottom and probably geared towards the wide public in general.

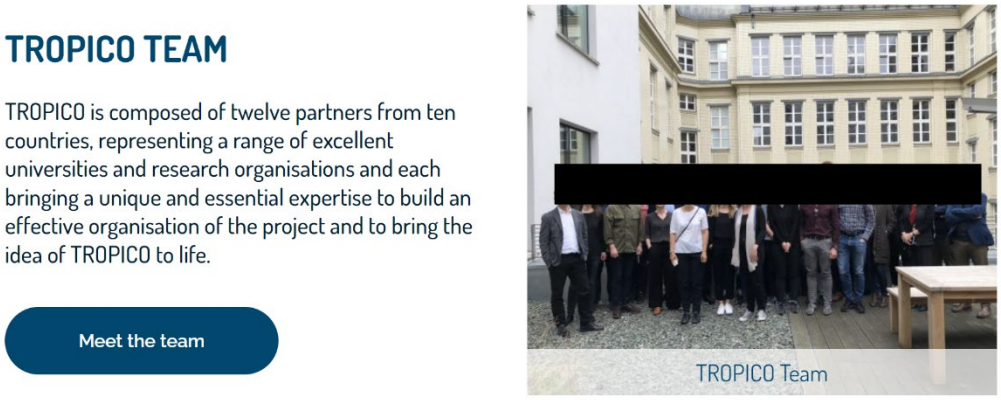
In **the (5) *Partners* cluster**, multimodal design may differ across *Homepages* in the weight added to verbal texts, the conceptual representation of partners through figures and maps, and the low or high modality of the pictures included. Example 5.110 shows a conventional design showcased in the data sample, where the title of the cluster is announced, and the partners' logos are inserted in a sort of grid. Consequently, there is no verbal text *per se* and the visual mode is clearly predominant. The informative pragmatic strategy [INF05] "Disclosing information about research members" is deployed just by providing users with quick access to partners' external websites if they click on the corresponding logo.

EXAMPLE 5.110 – IRP29 – *Homepage*

A much more personalised layout, where the collective identity of the project is leveraged, can also be encountered in the *Partners* cluster. In this distinct multimodal design, it is typical to introduce illustrative images of the research group as well as verbal texts as a kind of preamble to the content that users will discover if accesing the web section. The addition of images and videos was actually reported by informants during the interviews, who spontaneously pointed at the *Homepage* within their RPWs as an ideal place for the coexistence of such multimodal elements.

> Se ponen imágenes y vídeos para hacer la web del proyecto más atractiva. A mí la estrategia de esta web me encanta. O sea, que estén aquí en la página principal es genial. Como una especie de escaparate.
>
> [Images and videos are included to make the research project website more appealing. I love the strategy taken in this web. That is, that they are hosted in the homepage is great. As a sort of window display]
>
> (Informant 6 – IRP16)

Such a trend can be singled out in Example 5.111, where the *Partners* cluster is divided into two areas, the left one giving a succinct overview of the project consortium and the right one pinning a picture of the actual researchers.

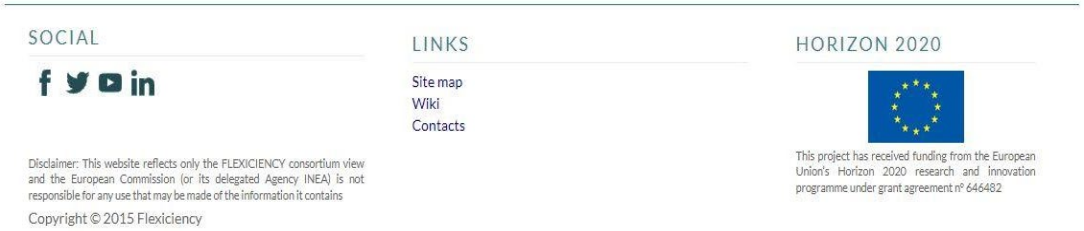


EXAMPLE 5.111 – IRP19 – *Homepage*

In this case, users can get to know the researchers better thanks to the high modality of the image and the caption inserted. Besides [INF05] "Disclosing information about research members", one can infer promotional purposes in the verbal text through the [PRO07] "Self-praising" of the project team. Contrary to the previous example, this multimodal configuration includes a hyperlinked button to guide the audience to perform the action of accessing the specific webpage devoted to the project consortium where their role and contribution to the research will be highlighted.

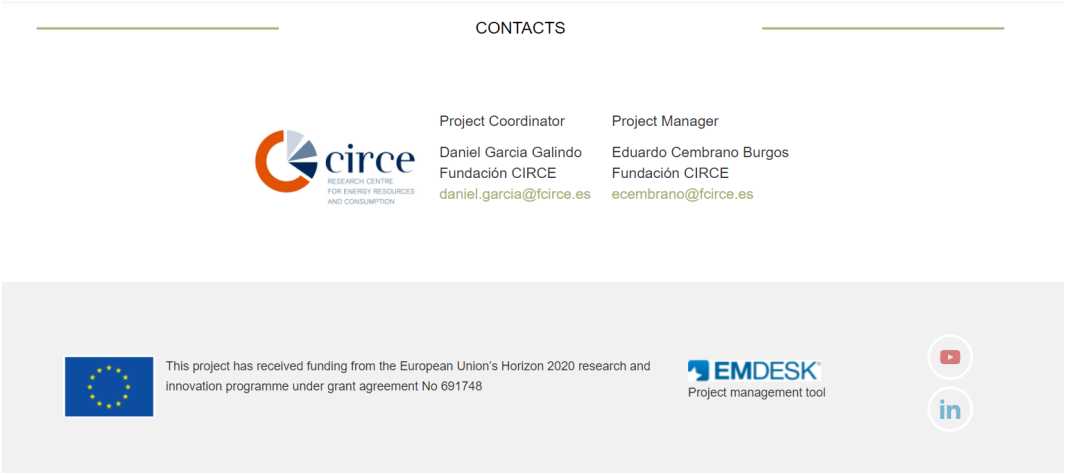
Finally, **the (6) *Footer*** is always present at the bottom of the *Homepage*, irrespective of its length and design. Borders are employed as a visual device to signal the introduction of this cluster and separate it from the previous one. Typical instances lie in the introduction of a horizontal line (Example 5.112 below) or a change to a dark colour (Example 5.111 above). This cluster is usually divided into columns devoted to various communicative purposes: driving users to social media profiles of the project, providing a set of links for further research-related information, offering contacts for information (especially the one of the project coordinator), indicating the physical location of the project, and even offering members an exclusive access to an intra-web portal. In all the *Homepages* analysed, a multimodal ensemble is consistently devoted to hold accountability of the funding received for the project –the Horizon2020 programme in this scenario. This is located at the left-hand side in Example 5.112, and occupies a more salient position at the right-hand side in Example 5.113. In view of all of the above, it can be concluded that informative and interactional strategies mostly permeate the *Footer* of research project homepages.

Example 5.112 epitomises a *Footer* divided into three columns of similar weight that incorporate icons to click on and a disclaimer, hyperlinks to navigate redirecting users to other multimodal elements (a wiki and a map), and the acknowledgement of public expenditure with the addition of a symbolic picture.



EXAMPLE 5.112 – IRP08 – *Homepage*

Example 5.113 introduces a footer with analogous content design, but a slightly distinct multimodal configuration. Prominence is given to the contacts of the project coordinator and manager, facilitating users a way to reach the project and [PRO04] "Highlighting members' contribution to the project" (both through the partner logo and the individual details). Then, bordered with a grey colour, the research group mentions the funding body and the project management tool, and locates at the right side the icons for the two social networking platforms (YouTube and LinkedIn) they maintain.



EXAMPLE 5.113 – IRP28 – *Homepage*

Through these two examples we can observe how research groups' intentions in the *Footer* are accomplished: one the one hand, making a public statement about the expenditure received through the informative strategy [INF10] "Acknowledging research funding"; on the other, fostering interaction with users through various interactional pragmatic strategies. The latter contributes to enhancing users' navigation through the website and establishing other communicative bridges by indicating, for example, e-mail addresses and physical locations.

On the whole, this section has attempted to indicate patterns in the pragmatic meanings conveyed in the cluster design of research project homepages. The prominence of informative, promotional and interactional macrocategories and some strategies has been underlined in relation to research groups' pragmatic intents and their connection with multimodal ensembles purposefully selected.

5.3. Pragmatic strategies in research project Twitter accounts

The growing role of Twitter seems clear in scholarly contexts, such as conference participation and project development, as discussed in Chapter 4. Twitter was theorised as an appendant digital practice to the research project website, taken as the host one. The manual reading and computer-assisted exploration of the EUROPRO Digital Corpus let me gain a lot of insights into the pragmatic intents of research groups when maximising digitally-mediated communication, but also into their overarching intentions as an IRP. One of those intentions entails an effective performance on social media, in particular through Twitter. Two tweets from the EUROPROtweets Corpus are showcased below to evidence how research groups explicitly convey this concern:

EXAMPLE 5.114a – IRP11 – Tweet 370

EXAMPLE 5.114b – IRP12 – Tweet 146

As the snapshots evidence, research groups' efforts to efficiently manage their social media accounts have become a priority for them, alongside the maintenance of the research project website. Example 5.114a illustrates how research groups (or project partners in this case) ask their followers for feedback, while Example 5.114b depicts how research partners and members reflect on and communicate their tactics to maximise the potential of SNSs. The functions that can be operated in Twitter, then, deserve attention in the context of research project communication. An insightful reflection was offered in the semi-structured interviews when an informant was asked about the potential benefits of holding a Twitter account for the project and the specific functions it may fulfil. In all, she remarked the necessity for her research project to embrace the use of social media:

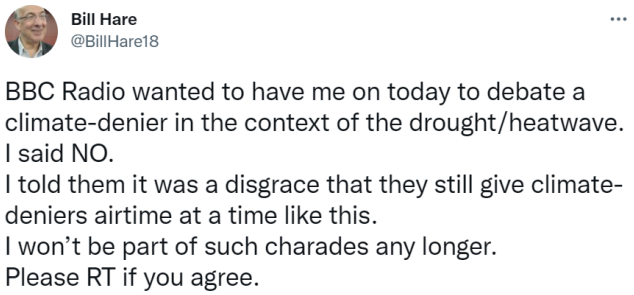
> Yo creo que sí, pero tiene una funcionalidad diferente a la de la web del proyecto, desde mi punto de vista. Es decir, todo depende, claro… las redes sociales tienen diferente funcionalidad cada una. Bueno, Facebook, desde mi punto de vista, está perdiendo un poquito últimamente frente a respecto a otras. Entonces, claro, si tú quieres llegar a participantes para el estudio, pues Twitter hoy en día es muy útil.
>
> [I think so, but it has a different functionality from the project website, in my view. That is, it all depends, of course… each social networking site has a different functionality. Well, Facebook, from my point of view, is losing a bit of ground lately with respect to others. So, sure, if you want to reach participants for the study, then Twitter nowadays is very useful.]
>
> (Informant 9 – IRP23)

The excerpt sheds light into the rationale of Twitter accounts for Horizon2020 projects, interestingly from the perspective of a researcher whose project does not hold one. In this case, one of the main aims is to engage participants, and this function is divergent from the ones of RPWs and other SNSs, which seem to be less and less favoured. Consequently, Twitter, and its satellite role as an appendant digital practice, is worth exploring in search for the pragmatic strategies deployed by research groups.

A further consideration prior to the presentation of the results from the analysis involves the inclusion of retweets within the EUROPROtweets Corpus, as pointed out in Subsection 3.1.4. As opposed to the relatively consistent choice of leaving retweets aside in the analysis of Twitter, the very particular usage made of this social medium for research project communication evidences how these are tremendously relevant to understand the digital practices developed by international research groups. Retweets in the end entail the strategic appropriation of content in a way that greatly concerns tweets authored by researchers and partners from the project consortium, who post and publish the information and updates about project development. It is then research projects from their institutional Twitter account that echo this information and make it their own. This backdrop is exhibited in Example 5.115, where an IRP has retweeted the update made by one of its team members. The tweet could have been published from the project institutional account, and equally contributes to the institutional and collective identity of the research group. All the content shared is about the research project, its mission and its productivity. Actually, explicit mentions are made to the Twitter handle of the project ('@ProjectMEDEAS'). The reiterated use of hashtags also reinforces the visibility of the project, touching upon its research topics and the organised event.

EXAMPLE 5.115 – IRP12 – Tweet 183

Furthermore, retweets are also included since they reveal the rationale of the research project, research groups' attitudes and beliefs, and how they position themselves in public discourse spheres. As such, retweets contribute to expanding our understanding of the ongoing trends and practices in social media, and of the goals targeted by research groups when using this digital affordance. Example 5.116 shows how the research group aligns with a very judgmental statement closely connected with the project disciplinary field. The alignment with the original tweet purports both opinion-sharing and centrality-claiming functions and lets readers clearly know the communal standpoint of the research group. This tweet where criticism is overtly performed through face-threatening acts (FTAs) is an extreme instance, but openly illustrates how intention can be performed by retweeting.



EXAMPLE 5.116 – IRP12 – Tweet 271

As these examples demonstrate, incorporating retweets into the corpus would allow for a more fine-grained identification of the digital academic practices, overriding pragmatic intentions, and specific communicative purposes that research groups endorse and pursue when embarking on Twitter for Research Dissemination Purposes (TRDP).

At the beginning of Section 5.2 a careful look was taken to the proportional distribution of the three macrocategories of pragmatic strategies (informative, promotional and interactional) in the EUROPROwebs Corpus. Moving on to the specific frequency and use of pragmatic strategies in the EUROPROtweets Corpus, Figure 5.6 offers the general results obtained and includes a comparative view between the two corpora analysed.

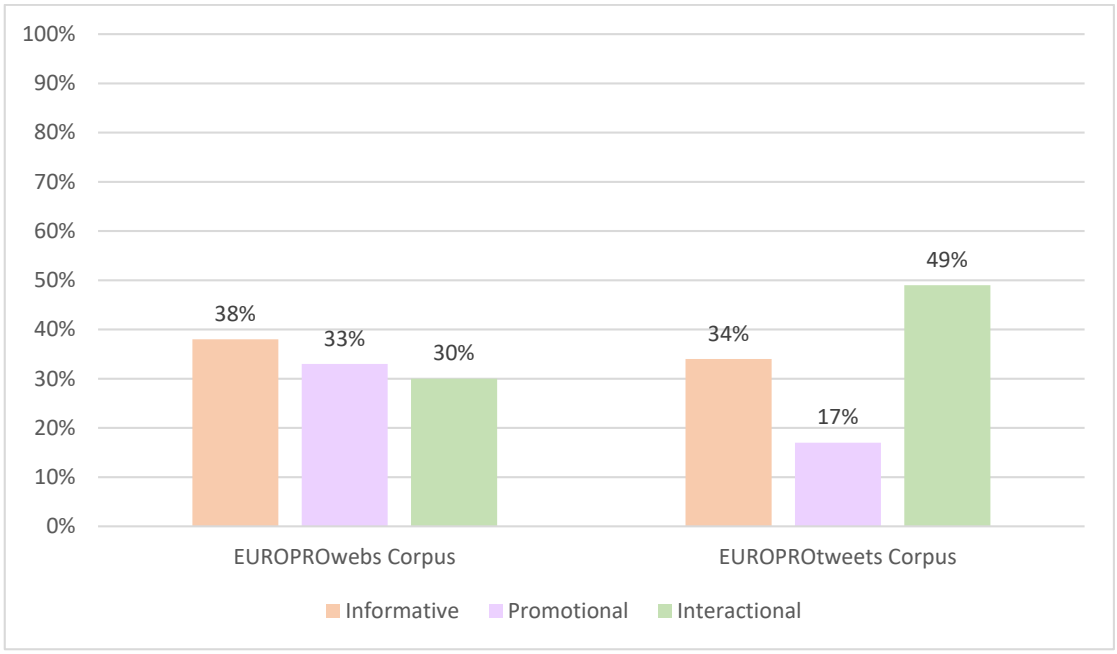


FIGURE 5.6. Distribution of informative, promotional and interactional macrocategories of pragmatic strategies in the EUROPROwebs and EUROPROtweets Corpora.

The comparison between RPWs and TRDP as for the frequency of use of the macrocategories of pragmatic strategies is visually clear. Informative pragmatic strategies seem to be similarly present in both digital practices, although the amount of strategies coded in research project websites slightly outnumbers the amount in Twitter (38% vs. 34%). The main differences lie in the deployment of promotional and interactional strategies, in which the

tendencies are proportionally inverse. While promotional strategies are balanced in RPWs when contrasted with the other two macrocategories (33%), they show a much lower prominence in Twitter, with just 17% of the total. Therefore, RPWs are the chosen digital space by research groups to tackle the self-branding of the project and to construct a positive digital face for the research consortium of partners. Conversely, interactional pragmatic strategies in RPWs scored 30%, being the least salient macrocategory, yet being to a certain extent in tune with the informative and promotional macrocategories. As could be expected, the frequency of interactional strategies in Twitter escalates, nearly reaching half of the overall distribution (49%). Thus, the set of interactional pragmatic strategies finds a more appropriate and successful place in Twitter, as a representative of SNSs, probably because of the digital affordances enabled in tweets and the bidirectional potential to disseminate information and get feedback and support from the audience.

After getting an overview of the macrocategories, the saliency of the data-driven pragmatic strategies is researched in the Twitter accounts held by Horizon2020 research projects. Firstly, the number of pragmatic strategies coded out of the 27 strategies comprised in the data-driven taxonomy is offered in Appendix III. The range of strategies per Twitter account goes from 16 to 27; however, there is a notable case. One of the research projects (IRP13) only counts on 9 tweets in its Twitter feed. This explains why the number of strategies is 16 (59% of total). Apart from this exception, the next Twitter account with the lowest amount of strategies features 20 out of the 27 strategies, which makes the range narrower. This better represents how all sorts of pragmatic strategies are purposefully employed in Twitter by research groups to meet the expectations of Twitter users. A more careful exploration of IRP13 was undertaken, to observe the particularity of this Twitter account. No retweets and replies are found, and the research project solely announces the publications of their four newsletters, and intersperse those with three tweets stressing the benefits and the impact of the project and a couple of tweets emphasising participation at a conference and publication of an academic paper. Hence, it seems that tweets are leveraged to convey the intention of [PRO09] "Claiming a project milestone" instead of periodically posting new content. Strategies fulfilling informative and interactional purposes were missing in such a Twitter account, which clearly favours a collective self-representation and a very planned (yet ineffective) social media communication. These absent strategies comprise [INF05] "Disclosing information about researchers" and [INF10] "Acknowledging research funding" within the informative macrocategory, and [INT01] "Guiding the audience to perform an action", [INT04] "Fostering networks", [INT05] "Praising and thanking others", [INT06] "Hooking the audience" and [INT07] "Offering contacts for information", within the interactional macrocategory.

Concerning the distribution of pragmatic strategies per Twitter account, it is observable that the use of pragmatic strategies is consistent and homogeneous across the feeds of research projects. The only exception may be [INT07] "Offering contacts for information", which is solely deployed in 40% of the Twitter accounts studied. The remaining 26 strategies feature at least 70% of the files analysed, and 7 strategies occur in all the Twitter accounts at least once. Full disclosure of the distribution of pragmatic strategies across each account of the EUROPROtweets Corpus can be consulted in Appendix IV.

Focusing on the particular deployment of the data-driven pragmatic strategies in Twitter, which were already analysed for the most salient research project web sections at the beginning of this chapter, some interesting trends are uncovered. The general frequencies of all the strategies encompassed in the taxonomy can be consulted in Table 5.15.

Pragmatic strategies		**Twitter accounts**	
		Occurrences	Frequency
INF01	Informing about the aim of the research	221	1%
INF02	Stating general background of the project	1052	5%
INF03	Giving specific details about an event	1193	6%
INF04	Reporting on research procedure	59	0%
INF05	Disclosing information about researchers	575	3%
INF06	Presenting the content of outreach	658	3%
INF07	Explaining audiovisual elements	877	4%
INF08	Clarifying technical and scientific terms	131	1%
INF09	Enumerating research- and topic-oriented elements	952	5%
INF10	Acknowledging research funding	1107	5%
PRO01	Stating the benefits and impact of project research	243	1%
PRO02	Underlining relevance and value through figures	346	2%
PRO03	Hyping expected data and accomplishments	129	1%
PRO04	Highlighting members' contribution to the project	662	3%
PRO05	Spreading a piece of output	606	3%
PRO06	Emphasising the quality and novelty of outreach	336	2%
PRO07	Acknowledging external or self-praise	349	2%
PRO08	Accounting for project productivity	730	4%
PRO09	Claiming a project milestone	136	1%
INT01	Guiding the audience to perform an action	1800	9%
INT02	Engaging the audience to participate in the project	744	4%
INT03	Inviting the audience to consume research project output	965	5%
INT04	Fostering networks	3061	15%
INT05	Praising and thanking others	491	2%
INT06	Hooking the audience	733	4%
INT07	Offering contacts for information	21	0%
INT08	Making information visually salient	2113	10%
TOTAL		**20290**	**100%**

TABLE 5.15. General frequency of use of each pragmatic strategy in the Twitter accounts of the EUROPROtweets Corpus.

On the whole, out of all the pragmatic strategies, the top-five most frequently employed are found to be:

- [INT04] Fostering networks (15%) – interactional
- [INT08] Making information visually salient (10%) – interactional

- [INT01] Guiding the audience to perform an action (9%) – interactional
- [INF03] Giving specific details about an event (6%)
- [INF10] Acknowledging research funding – informative / [INF02] Stating general background of the project – informative / [INT03] Inviting the audience to consume research project output – interactional / [INF09] Enumerating research- and topic-oriented elements – informative (5% each)

Remarkably, the three strategies with a higher frequency are comprised within the interactional macrocategory of pragmatic strategies: [INT04] "Fostering networks", [INT08] "Making information visually salient" and [INT01] "Guiding the audience to perform an action". Such a tendency hints at a more meaningful role played by interactional strategies in social media like Twitter than in RPWs, as could be expected. One more striking finding lies in the absence of promotional pragmatic strategies among the most deployed ones. The fourth place is occupied by the informative strategy [INF03] "Giving specific details about an event". At a very short distance (6% vs. 5%), there is a group of strategies with a very similar number of occurrences and the same overall frequency of use. This is why four pragmatic strategies are included in the fifth position above. One of them falls into the interactional macrocategory ([INT03] "Inviting the audience to consume research project output"), whereas the remaining three are of an informative nature ([INF10] "Acknowledging research funding", [INF02] "Stating general background of the project" and [INF09] "Enumerating research- and topic-oriented elements"). In conclusion, four interactional and four informative pragmatic strategies seem to be the most recurrent intentions encapsulated by research groups in the Twitter accounts for their projects.

On the other hand, it is worth placing the lens on the pragmatic strategies that tend to be omitted in Twitter. Four strategies score 1%, while other two score 0%. Three principal reasons may be pinpointed for their low prominence. First, these strategies may not match research groups' communicative purposes within this social medium. For example, [INF01] "Informing about the aim of the research" could be already stated in the Twitter profile of the research project, thus taking somehow for granted and not being recurrently instantiated in their feeds. Surprisingly, [PRO01] "Stating the benefits and impact of project research" is also included within this set, probably because it is a more technical strategy which research groups may deem uninteresting for diversified audiences (in opposition to, for instance, [PRO06] "Emphasising the quality and novelty of outreach", which non-specialised readers may be curious about. Second, the least employed pragmatic strategies entail intentions which cannot be deployed periodically by research groups, like [PRO09] "Claiming a project milestone", and it should be borne in mind that an SNSs like Twitter demands for an ongoing maintenance to be effective. Third, the appearance of some pragmatic strategies is influenced by the digital affordances of Twitter. Two of these affordances stand out. The character limit of the tweets prevents research groups from introducing strategies such as [INF08] "Clarifying technical and scientific terms" and [INF04] "Reporting on research procedure", in which long explanations may be required to efficiently convey their pragmatic force. The straightforward addressivity of the Twitter platform may influence the low deployment of [INT07] "Offering contacts for information", as any users can

directly reach the research project and its team members through the social medium itself (using mentions, replying to tweets, writing direct messages (DM) through the Twitter chat, etc.). The analysis of the data-driven pragmatic strategies per macrocategory may give us more insights into their purposeful use in Twitter.

Informative pragmatic strategies

Informative strategies have been found to consistently feature the Twitter accounts for IRPs, exhibiting a third of all of the occurrences coded. For this macrocategory, full results can be checked in Table 5.16. The three strategies with the highest frequency are [INF03] "Giving specific details about an event" (17%), [INF10] "Acknowledging research funding" (16%) and [INF02] "Stating general background of the project" (15%). Just after them, [INF09] "Enumerating research- and topic-oriented elements" and [INF07] "Explaining audiovisual elements" score 14% and 13%, pointing at notable uses in Twitter. Then, other strategies are in a mid-position in terms of frequency, namely [INF06] "Presenting the content of outreach" (10%) and [INF05] "Disclosing information about researchers" (8%). As shown in the previous subsections, these informative strategies are more salient in webpages where there are more concrete spaces to fit and develop these intentions, such as *News & Events* and *Partners* sections, respectively. The set of informative pragmatic strategies finishes off with [INF01] "Informing about the aim of the research" (3%), [INF08] "Clarifying technical and scientific terms" (2%) and [INF04] "Reporting on research procedure".

Informative pragmatic strategies	**Occurrences**	**Frequency**
[INF01] Informing about the aim of the research	221	3%
[INF02] Stating general background of the project	1052	15%
[INF03] Giving specific details about an event	1193	17%
[INF04] Reporting on research procedure	59	1%
[INF05] Disclosing information about researchers	575	8%
[INF06] Presenting the content of outreach	658	10%
[INF07] Explaining audiovisual elements	877	13%
[INF08] Clarifying technical and scientific terms	131	2%
[INF09] Enumerating research- and topic-oriented elements	952	14%
[INF10] Acknowledging research funding	1107	16%
TOTAL	**6825**	**100%**

TABLE 5.16. Relative frequency of pragmatic strategies within the informative macrocategory in the EUROPROtweets Corpus.

As claimed beforehand, the informative strategy with the highest prominence in the EUROPROtweets Corpus is **[INF03] "Giving specific details about an event"** (17%). Several aspects should be commented on to understand the various ways in which research groups deploy it. First, unlike in research project web sections like *News & Events*, it is possible in Twitter that

the whole text is devoted to conveying such an intention. Details can be circulated for events that are organised by the research group (Example 5.117a) as much as for events that are external to the project but of interest to the research undertaken (Example 5.117b). In this second case, which entails a retweet of a tweet authored by the project coordinator, it is observable how the external hyperlink has been included for users to access more information and [INT04] "Fostering networks" has been used to render the names of the organisers visible by mentioning their Twitter handles.

EXAMPLE 5.117a – IRP20 – Tweet 46

EXAMPLE 5.117b – IRP11 – Tweet 143

On a different note, the deployment of [INF03] is closely linked with the affordance of retweeting. Quite often, research projects include in their feeds tweets written by *outsiders,* that is, random users not related to the project, about events organised by themselves and others, paralleling the examples illustrated above. In Example 5.118, the retweet is logical because the project authoring the text has mentioned the research project ('@circ_economy') as part of the participants in the conference announced. Interestingly, three layers of text are created, evidencing the potential of intertextuality in Twitter (Devitt 1991; Vásquez 2015) –an original tweet turned into a quoted tweet, and this was retweeted. This instance also represents the regular details offered, which tend to comprise the topic of an event, the place and date in which it will take place, and the human capital involved, especially members of the organising committee and participants.

EXAMPLE 5.118 – IRP03 – Tweet 412

Furthermore, the use of [INF03] shows a two-fold trend in how the presentation of events is tackled. Research groups may opt for focusing on prospective events or informing about past events. These choices are embodied in Example 5.119a and Example 5.119b. A combination of strategies in the first scenario encompasses the use of [INT02] "Engaging the audience to participate in the project", which is instantiated in the command 'Register to join'. In the second

snapshot, we can observe the enunciation of [INF10] "Acknowledging research funding", through the explicit mention to the Horizon2020 programme, as well as [INT04] "Fostering networks", since the organising project and the funding body are remarked –thus reinforcing the *out* and *up* axes. For both strategies the affordance of hashtagging has been employed, making the sister project ('#DEMETO') and financing programme ('#H2020') noteworthy for readers and increasing their searchability.

EXAMPLE 5.119a – IRP19 – Tweet 4

EXAMPLE 5.119b – IRP10 – Tweet 48

[INF10] "Acknowledging research funding" (16%) is the second most employed informative pragmatic strategy in the EUROPROtweets corpus. Apart from being a strategy recurrently used in the Twitter profiles of the projects, whole tweets may be crafted to recognise the help of the public expenditure granted by funding bodies which enables the development of the project. Example 5.120 provides an instance of a tweet where the focus is clearly on the Horizon2020 framework. Not only are the European Commission and the Twitter profile of the H2020 programme mentioned (therefore displaying [INT04] "Fostering networks" along the *up* axis), but the same information is also inserted verbally. Actually, the acknowledgement is triplicated, since the research group has also uploaded a web-generated picture to let users know about the financing received and reinforce the institutional identity of the project. For such self-branding purposes, diverse mechanisms are leveraged, such as the logo of the project, the colours within and around the project name, the full disclosure of the acronym and the addition of the website.

EXAMPLE 5.120 – IRP15 – Tweet 2

Even though the emphasis is fundamentally on the Horizon2020 programme, other complementary or alternative funding bodies are also acknowledged in the research project Twitter accounts. Example 5.121 depicts the acknowledgement to the European Research Council (ERC) in light of a retweet made by the research group to one of their announcements. Both the funding body and the project institutional partner are explicitly mentioned as well.

EXAMPLE 5.121 – IRP12 – Tweet 281

In spite of having seen so far full tweets concerned with the deployment of [INF10], the great number of occurrences coded is justified by the ongoing use of this strategy as a concatenation of two or more hashtags/mentions (Example 5.122). Rhetorically, they function in a very similar way as the footers in research project *Homepages* do, which were just explored in Subsection 5.2.4. Research projects include these fixed sequences at the end of their tweets to ensure the accountability towards the funding institutions –and to hashtag their names, so that they are findable by other interested users.

EXAMPLE 5.122 – IRP20 – Tweet 117

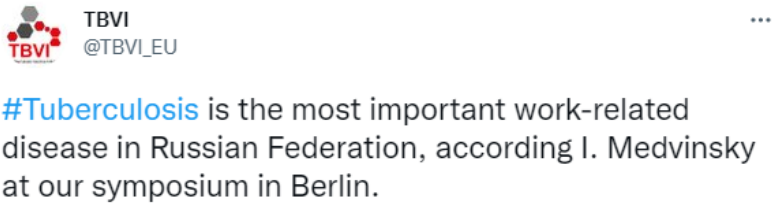
Two more snapshots are provided for other, atypical, uses of this informative strategy. Example 5.123a displays the strategy in the shape of a retweet where the added value of being financed by the Horizon2020 programme is openly emphasised and figures are put forward to remark those benefits. In turn, Example 5.123b is a reply to an individual user, in which the research group takes a funny tone with which to build rapport. The collective identity of the project is brought to the fore through the reiteration of first person plural references; the interactional potential is construed by greeting the user, resorting to intertextual cues like 'greatest hits' and repeating the structure initiating with 'Yes'.

EXAMPLE 5.123a – IRP11 – Tweet 358

EXAMPLE 5.123b – IRP12 – Tweet 161

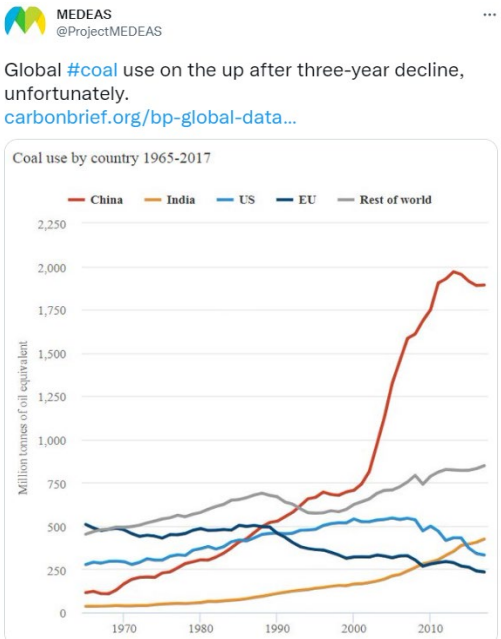
The third most salient informative strategy is found to be **[INF02] "Stating general background around the project"** (15%). Twitter is also used as a channel to augment the shared knowledge between the audience and the research consortium in an informal environment with interactive affordances, which may not be so feasible in RPWs. One frequent case concerns research groups claiming the centrality of their investigations through statements of general

interest addressed to diversified audiences, as encapsulated in Example 5.124 in relation to 'tuberculosis'. In terms of content, research groups tend to resort to [INF02] by uncovering facts that may be unknown to users and pondering the newsworthiness of the project topic –on this occasion related to 'tuberculosis'.



EXAMPLE 5.124 – IRP17 – Tweet 133

Some patterns are salient when [INF02] is combined with other strategies. Example 5.125a shows the additional deployment of [INF07] "Explaining audiovisual elements", since a picture containing a graph is attached to the tweet precisely to state general background about the project, whose mission is to model the renewable energy transition. Example 5.125b comes from a retweet in which the research project is mentioned. Here, [INF02] functions as a trigger that verbally precedes the pursuit of promotional effects (and is further interwoven in the picture enclosed). In this case, the motive for the research group to retweet that information has to do with [PRO07] "Acknowledging external praise".



EXAMPLE 5.125a – IRP12 – Tweet 323

EXAMPLE 5.125b – IRP03 – Tweet 793

Promotional pragmatic strategies

The top-three promotional pragmatic strategies in Twitter are [PRO08] "Accounting for project productivity" (21%), [PRO04] "Highlighting members' contribution to the project" (19%) and

[PRO05] "Spreading a piece of output" (17%). As can be seen in Table 5.17, taken together, they represent over half of the occurrences of promotional strategies. Subsequently, there comes another group of strategies with much lower percentages: [PRO07] "Acknowledging external praise and self-praise" (10%), [PRO02] "Underlining relevance and value through figures" (10%), [PRO06] "Emphasising the quality and novelty of outreach" (9%) and [PRO01] "Stating the benefits and impact of project research" (7%). It seems, then, that research groups favour some particular promotional aspects over others for the self-representation and self-branding of their project. To address an imagined heterogeneous audience in Twitter, probably unlike in RPWs, they are more prone to echo the flattering comments made by others in their Twitter feeds [PRO07], and to capture the readers' attention through references to numbers, measurements, quantities and percentages [PRO02]. The collective identity of the research project is built through these intentions, rather than by putting forward the advantages brought by the research undertaken in academic and scientific settings and societal environments –as the use of [PRO01] and [PRO06] would entail.

The least employed promotional strategies are [PRO09] "Claiming a project milestone" and [PRO03] "Hyping expected data and accomplishments" (4% in each case). The low prominence of the former was already justified above. It is worthwhile focusing on the lack of saliency of the latter, specifically in Twitter. The fact that research groups do not hype their future findings and do not add exaggerated value to their actions and goals may have to do with their consciousness to communicate the project information and outcomes in simple, explanatory ways which are not categorised as overambitious, too evaluative or eventually turning fake. Such a standpoint taken by research groups may help understand the differences between dissemination, which is applied in the case of research projects, and other recontextualising practices such as popularisation, vulgarisation and scifotainment (Engberg 2021) –see Section 1.2 for a discussion of these terms.

Promotional pragmatic strategies	**Occurrences**	**Frequency**
[PRO01] Stating the benefits and impact of project research	243	7%
[PRO02] Underlining relevance and value through figures	346	10%
[PRO03] Hyping expected data and accomplishments	129	4%
[PRO04] Highlighting members' contribution to the project	662	19%
[PRO05] Spreading a piece of output	606	17%
[PRO06] Emphasising the quality and novelty of outreach	336	9%
[PRO07] Acknowledging external or self-praise	349	10%
[PRO08] Accounting for project productivity	730	21%
[PRO09] Claiming a project milestone	136	4%
TOTAL	**3537**	**100%**

TABLE 5.17. Relative frequency of pragmatic strategies within the promotional macrocategory in the EUROPROtweets Corpus.

Out of the top three most deployed promotional pragmatic strategies, it is **[PRO08] "Accounting for project productivity"** the one with the highest frequency (21%). Research

groups aspire to enhance the visibility of their tangible efforts to advance in their projects, for which any activity prepared or attended is circulated and publicised. Most of the times this strategy revolves around academic events and scholarly participation, such as in Example 5.126a. In this tweet, the instantiation of [PRO07] "Self-praising" is also observable through the positive judgments made by the project about themselves and the insertion at the end of [INF10] "Acknowledging research funding", as the sort of footer indicated above. Coming back to [PRO08], its deployment may also deal with non-academic productivity, depending on the objectives of the project. In Example 5.126b, fieldwork is prompted to evidence the productivity of the research team. The interactional strategy [INT03] "Inviting the audience to consume research project output" is employed to redirect users to the *News & Events* section of the research project website (hence, through an internal hyperlink) so that they can expand the information briefly exposed in the tweet.

EXAMPLE 5.126a – IRP05 – Tweet 71

EXAMPLE 5.126b – IRP09 – Tweet 36

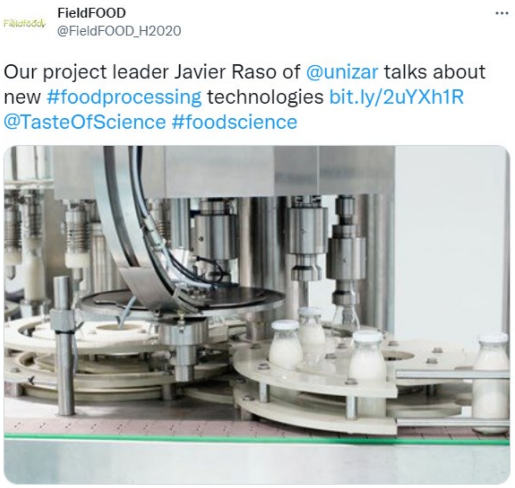
With respect to the multimodal support of pictures in these tweets, the use of illustrative pictures is fruitful in cases like the one shown in Example 5.126a, so that users can see researchers 'live', on this occasion attaching a personal picture. By contrast, in tweets where [PRO08] mirrors the usage in Example 5.126b, realistic pictures portraying the actions undertaken are more frequent.

The second most frequent strategy within the promotional macrocategory is **[PRO04] "Highlighting members' contribution to the project"** (19%). Blurry lines between this strategy and [PRO08] could be sometimes set in the codification of the tweets. Understanding that one overarching purpose of research groups tweeting is to let readers know about what the project is doing, while in [PRO08] the collective identity of the project should be prioritised and given weight, in [PRO04] the emphasis needs to be clearly placed on the partners and researchers, and secondarily on the project. Such a decision helped disambiguate cases where both strategies could converge. Example 5.127 displays the use of this strategy by underlining how two research partners introduce the project and share its progress at a disciplinary forum. As argued, although the project is rendered visible through a hashtag, the primary emphasis is laid on the visibility of the team members, and is further conveyed through the personal picture that evidences their

contribution. An internal link is inserted to allow users to navigate through the research project website and see what the project partners did at the event.

EXAMPLE 5.127 – IRP15 – Tweet 325

Similar deployment of the strategy is represented in Example 5.128, but this time attention is paid to specific researchers within the consortium. The most recurrent case throughout the EUROPROtweets Corpus in this sense is to report on the contribution of the main professional figure of the investigation, under names such as project leaders or CEOs. In Example 5.128a, [INF05] "Disclosing information about researchers" is briefly deployed through a prepositional phrase that includes the affiliation of the principal investigator. In Example 5.128b, no extra information about the researcher is shared, but details about the event are offered. Noticeably, the use of [INF10] "Acknowledging research funding" is present in this instance as well, complying with the idea of a 'footer' for the tweets through a sequence of hashtags or, as in this case, mentions.



EXAMPLE 5.128a – IRP07 – Tweet 16

EXAMPLE 5.128b – IRP17 – Tweet 24

Last, **[PRO05] "Spreading a piece of output"** (17%) is the third most salient promotional pragmatic strategy and deals with the release and circulation of publications and materials stemming from the project. Several examples are provided as follows to reflect on the various kinds of output that projects promote and what other strategies serve to reinforce and complement the deployment of [PRO05]. First, Example 5.129 illustrates a general instance of the strategy in which a specific directive is conveyed and the link for the research project website is enclosed. This instance features a quoted tweet in which a partner from the project consortium has claimed that the project is about to finish, so readers can infer that publications are starting to bloom. No specific section has been chosen in the internal hyperlink, so that users are free to navigate through the project outputs, but also the rest of the contents hosted there.

EXAMPLE 5.129 – IRP03 – Tweet 66

The variety of outputs that can be disseminated by the research group through the use of [PRO05] is ample. Example 5.130a concentrates on sharing two new research articles published. This 'primary output' (Puschmann 2015) is housed within the research project website (*News & Events* section) and users are led to a specific webpage where they can expand the information about them. Example 5.130b is about [PRO05] being instantiated to publicise a leaflet that is hosted in the *Output* web section of the RPW. When internal hyperlinks are leveraged in tweets deploying [PRO05], the most preferred sections are *News & Events* and *Output*, as illustrated in the first two snapshots. Finally, Example 5.130c contains a different case: the publication of a newsletter is announced, but it is uploaded in a portal that serves as a repository for the project documents and materials. Sustained interest by users is encouraged through the command 'Sign up here', which leads to the interface of this project-related webpage held outside the RPW. Thus, it is peripheral hyperlinks that are offered this time.

EXAMPLE 5.130a
IRP11
Tweet 603

EXAMPLE 5.130b
IRP06
Tweet 4

EXAMPLE 5.130c
IRP19
Tweet 39

Common to the three examples is the occurrence of [INT03] "Inviting the audience to consume research project output", though with different pragmatic forces. In Example 5.130a, this is implicitly stated and the only cue for users is the insertion of a semi-colon preceding the hyperlink. In Examples 5.130b and 5.130c the locutionary force is clear and the use of directives lets users know the action they are being requested to perform.

Finally, the outputs of the project, especially when it comes to 'primary' ones, can also be located in sites other than project-related ones. An external hyperlink is introduced in Example 5.131 for users to go and read it. More interestingly, the instance below exhibits diverse mechanisms to catch the users' attention and boost the promotion of the output. A straightforward question at the beginning, enticing vocabulary like 'now available', a command at the end, and the exaggerated use of exclamation marks all contribute to [INT06] "Hooking the audience" to fulfil research groups' overriding intention [PRO05].

EXAMPLE 5.131 – IRP14 – Tweet 28

About the relevance of the strategy [PRO05], one of the informants was requested about her perception of the usefulness of Twitter for the research project, and she claimed that circulating the release of output among the audience was effective in this particular social medium:

> Ha servido mucho para los *papers*, cuando salía un artículo... Te sube mucho la visualización del *paper* en el mundo académico. Entonces, se publicaba primero en el blog la noticia, la noticia del blog se publicaba después en LinkedIn y ahí, bueno, tenía visualizaciones, pero no muchas… Y lo que sí impactaba mucho en las publicaciones era Twitter.
>
> [It was very fruitful for the papers, when a paper was out… It increases a lot the visualisation of the paper within the academic world. Then, the piece of news was first published in the blog, and the post in the blog was published in LinkedIn and there, well, it had visualisations, but not many… What did bring an impact to the publications was Twitter]
>
> (Informant 6 – IRP04)

Interactional pragmatic strategies

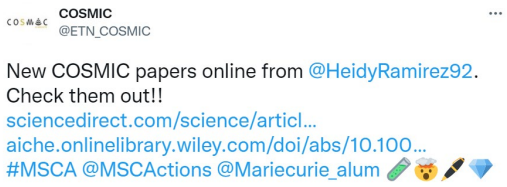
Zooming in onto interactional pragmatic strategies (Table 5.18), three of them stand out: [INT04] "Fostering networks" is ranked first (31%), [INT07] "Making information visually salient" is at the second place (21%), and [INT01] "Guiding the audience to perform an action" is the third most frequent one (18%). The occurrence of these three amounts to 60% of the interactional strategies employed –and one third of the total strategies coded in the EUROPROtweets Corpus. Then, there is a big leap to the rest of interactional strategies, which score lower frequencies and comprise [INT02] "Engaging the audience to participate in the project" (7%), [INT06] "Hooking the audience" (7%), and [INT05] "Praising and thanking others" (5%). Research groups do not seem to seek to entice users through Twitter to get involved in project-related activities. The low frequency of [INT02] may then hint at a higher interest on the part of research groups in disseminating information and fostering networks, as was theorised in Chapter 4, rather than involving citizens in their work. In turn, a very low frequency in the use of strategies to hook,

praise and thank readers underlines a poor deployment of research groups' pragmatic intentions to construct a visibly positive self-image of the project as regards the audience. Hooking seems to be deemed unnecessary towards the followers of a research project Twitter account and is only used purposefully in relation to particular contents published (e.g. final events, release of publications, new products). Praising and thanking are also not bolstered in this social medium, and this finding is in line with the overruling small amount of replies existing in the EUROPROtweets Corpus (see Table 3.5), where these intentions could be easily and fruitfully conveyed. Therefore, the bidirectional potential of Twitter is not maximised to bring researchers and citizens together. Lastly, [INT07] "Offering contacts for information" is clearly an absent strategy in the Twitter accounts of Horizon2020 research projects.

Interactional pragmatic strategies	**Occurrences**	**Frequency**
[INT01] Guiding the audience to perform an action	1800	18%
[INT02] Engaging the audience to participate in the project	744	7%
[INT03] Inviting the audience to consume research project output	965	10%
[INT04] Fostering networks	3061	31%
[INT05] Praising and thanking others	491	5%
[INT06] Hooking the audience	733	7%
[INT07] Offering contacts for information	21	0%
[INT08] Making information visually salient	2113	21%
TOTAL	**9928**	**100%**

TABLE 5.18. Relative frequency of pragmatic strategies within the interactional macrocategory in the EUROPROtweets Corpus.

Looking into the frequency of interactional pragmatic strategies, we can observe that **[INT04] "Fostering networks"** is the most recurrent one (31%). The four types of networks that research groups seek to enhance were represented in Figure 5.1 considering two complementary axes. First, networks can be fostered *up* and *down*, emphasising, respectively, the institutions and bodies that enclose the projects and provide them with financing, and the individual users that the project tries to reach with a focus on lay audiences. Second, *in* and *out* make up a horizontal axis, in which research groups establish bridges, one the one hand, with researchers of their own projects and people involved in the project like external collaborators, but also, on the other, with sister research projects, public and private enterprises and the mass media. The four axes conceptualised are illustrated through Example 5.132:



EXAMPLE 5.132a – IRP04 – Tweet 90

EXAMPLE 5.132c– IRP01 – Tweet 40

EXAMPLE 5.132d – IRP09 – Tweet 27

EXAMPLE 5.132b – IRP 12 – Tweet 253

Example 5.132a demonstrates how the publication of a new paper is being shared with the Twitter followers of the project. It is at the end of the tweet where *up* networks are fostered mentioning the funding programmes the researcher works with. It is then a way to reach these funding bodies, namely the Marie Skłodowska-Curie Actions programme, so that they can follow the researcher and the project and read about the publications launched. Simultaneously, two more pragmatic strategies are deployed: [INF10] "Acknowledging research funding", since the tweet foregrounds the accountability of the research group, and [PRO04] "Highlighting members' contribution to the project", since the authorship of the article is reinforced, and the researcher is explicitly given credit by inserting its Twitter handle.

Example 5.132b displays a reply to an individual user in which the research group provides further instructions on how to use the model designed for the project. This is then placed within the *down* axis, as networks are fostered between the consortium and diversified users with a genuine interest in the project. It should be noted that the tweet in Example 5.123a also showcases an attempt to promote the networks along the *down* axis as regards the publication announced.

Example 5.132c is illustrative of how *in* networks are boosted. This instantiation of [INT04] could be somehow confused with [PRO04] "Highlighting members' contribution to the project", but, as the snapshot shows, there is no explicature that may let users make that connection. Instead, the participation of a research partner, as a separate entity from the project, is described. A concise comment allows us to relate the partner mentioned with the research project, but the pragmatic force altogether is very different from cases where [PRO04] is

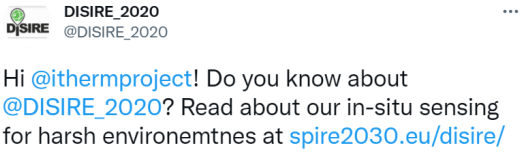
deployed. It is the digital identity of the research partner that is made visible and public, and the research project is attempting to bridge the relationship between them.

Finally, in Example 5.132d we can observe a different instantiation of [INT04] "Fostering networks", this time focusing on the *out* axis. Even when most of the times mentions are leveraged as an affordance to encourage the addressivity and searchability of the tweets, networks can also be fostered verbally. The joint organisation of an event between a research project and another project within the same disciplinary background is spread out through the performative phrase 'in cooperation with'. To this respect, words such as 'cooperation', 'collaboration', 'help' and 'support' tend to be indicative of the deployment of [INT04].

Nevertheless, the *up* and *out* axes stand out in the EUROPROtweets Corpus over the other two. Research groups' intentions seem to be geared towards the communication with institutions and programmes from which they can benefit and to which they need to respond, as well as towards the interaction with users from private and public spheres with an academic and professional background. Such a finding hints at the deployment of [INT04] "Fostering networks" to address specialised readers and potential beneficiaries, rather than lay audiences and their own web of partners and members. Some more examples are showcased below to explore in more depth the *up* and *out* axes.

One of the ways of reaching international agencies and other research projects is by devoting full tweets to address them. This is captured in Examples 5.133a and 5.133b, where the *up* and *out* axes can be pinpointed in tweets targeted at potentially interested users. Whereas Example 5.133a is directed to the European Biomass Industry Association as an umbrella framework where the project is positioned, Example 5.133b is published to interact with another research project sharing similar goals. Nonetheless, the discursive enactment of the strategy is practically the same. In addition to the insertion of the users' Twitter handles, interactional resources are employed, such as greetings ('Hi'), direct questions, directives ('Follow', 'visit', 'tag', 'Read') and the attachment of internal hyperlinks to the research project website. Self-references to the project also feature these tweets to strengthen the institutional and collective traits of their identity ('@Waste2Fuels project', 'us', '#waste2fuelsEU' in the example to the left, and '@DISIRE_2020' and 'our' in the one to the right).

EXAMPLE 5.133a – IRP20 – Tweet 153



EXAMPLE 5.133b – IRP06 – Tweet 32

One of the Twitter accounts with the largest number of tweets published, and where [INT04] "Fostering networks" features prominently is IRP11. Further examples are disclosed below pointing at the *out* axis. Example 5.134a combines the use of this strategy with [INT05] "Praising and thanking others". The somehow exaggerated flattering comment on the research project makes it clear that the research group posting the tweet wants to build professional rapport with one another. Example 5.134b presents a different case, where media coverage is enhanced.

The network is strengthened with a popularisation magazine, in which an article written by a project member has been published. Simultaneously, [INT03] "Inviting the audience to consume research project output" is enacted, for which the external link to the magazine is enclosed at the end of tweet.

EXAMPLE 5.134a – IRP11 – Tweet 268

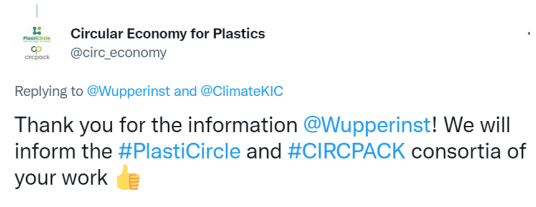
EXAMPLE 5.134b – IRP11 – Tweet 635

A final comment is called for about two complementary ways of portraying the strategy [INT04] "Fostering networks": the use of evidentials and the publication of replies. Regarding the former, by quoting what others have said, research groups establish bridges with various users, from researchers and institutions to journals and mass media. Example 5.135 depicts how the interactional strategy is conveyed at the same time as promotional purposes are emphasised. To foster the relationship between the research group and the quoted users, mentions are used, both to the individual user and to the institutional programme. The reference to the users' claim is appropriated to deploy the strategy [PRO01] "Stating the benefits and impact of the project".

EXAMPLE 5.135 – IRP02 – Tweet 186

The replying option that Twitter affords is also employed to convey the intent of [INT04], and is often accompanied by the strategy [INT05] "Praising and thanking others". Example 5.136a evidences this combination regarding the *in* axis, since it is a researcher within the consortium who is thanked. Example 5.136b provides a counterpart example for the *out* axis, since the research group is fostering networks with another research project. This pattern of strategies is respectively supported by the repetition of exclamation marks in the first tweet and the use of emojis in the second one.

EXAMPLE 5.136a – IRP14 – Tweet 120



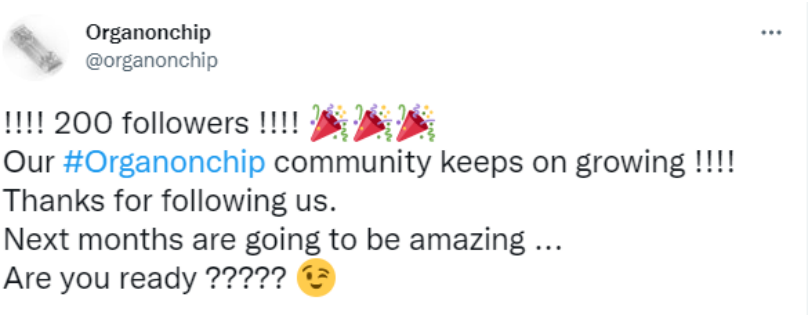
EXAMPLE 5.136b – IRP03 – Tweet 440

The next more prominent strategy observed in the EUROPROtweets Corpus within the interactional macrocategory is **[INT08] "Making information visually salient"** (21%). Its instantiation is mainly enabled in the data sample scrutinised via orthotypographic resources and emojis. It is typical to fully capitalise the key information of the tweet, so that it is readily conveyed to the followers of the project. In Example 5.137, [INT08] serves to enlarge the illocutionary force of the main strategy encapsulated in the tweet, which is [PRO05] "Spreading a piece of output". Two emojis surround the highlighted statement, visually indicating that it is a publication and that it is connected with the European Union. The sequence of ticks is resorted by the research group to feature the contents of the newsletter launched, occupying the central part of the tweet. The information is further enhanced by inserting an arrow emoji that overtly offers users a route for navigation containing the access to the project output.

EXAMPLE 5.137 – IRP03 – Tweet 529

Other combinations of strategies are possible when information is made visually salient. [INT08] is many times displayed as a subsidiary strategy to [PRO09] "Claiming a project milestone", as in Example 5.138. The research project has achieved a relatively good number of followers and this is purposefully publicised in a whole tweet. The exaggerated deployment of orthotypographic resources, both exclamation and question marks, together with the addition of celebratory emojis, aim at increasing the engagement of the audience. Other interactional strategies are encompassed in the tweet as well. [INT05] "Praising and thanking others" is used to address all the project followers, and [INT06] "Hooking the audience" is conveyed through the

final question 'Are you ready?????'. In between those, [PRO03] "Hyping expected data and accomplishments" is carried out through references to the future ('Next months'), positive evaluation ('amazing') and the use of suspension points.



EXAMPLE 5.138 – IRP14 – Tweet 118

Finally, **[INT01] "Guiding the audience to perform an action"** (18%) scores the third highest frequency among the interactional pragmatic strategies. Example 5.139a represents a general use in which the strategy is displayed to appeal users to visit the RPW. Nevertheless, it tends to serve more overarching intentions, being strategically employed to steer the audience toward other content internally housed in the website or available out of it. One of these cases involves the combined deployment of [PRO05] "Spreading a piece of output" and [INT03] "Inviting the audience to consume research project output" (Example 5.139b). The directive 'Take a peek' makes research group's intention self-evident for users.

EXAMPLE 5.139a – IRP15 – Tweet 372

EXAMPLE 5.139b – IRP20 – Tweet 38

[INT01] can also be conveyed simply through emojis, such as the ones symbolising pointing fingers –Example 5.140. In this case, users are guided to click on the YouTube video attached to the tweet, after the research group has deployed the primary intention of [PRO08] "Accounting for project productivity" in light of their participation at an event.

EXAMPLE 5.140 – IRP03 – Tweet 107

Once the data-driven pragmatic strategies have been analysed in the EUROPROtweets Corpus, it becomes clear that research groups opt for different ways of deploying their intentions from the ones used in research project websites. Even when their communicative intentions may overlap in both settings, as in the case of informative pragmatic strategies (see Table 5.15 above), the mechanisms to instantiate the identified strategies within Twitter have been shown to be different. The top-three pragmatic strategies in each macrocategory seem to let us infer that Twitter is employed because of its interactional potential (e.g. dynamicity, expressivity, dialogicity), and the updates about events, publications and background of the project help increase the visibility of the research consortium, the impact of their performance and the relationship with their followers and other users. A comment from the interviews may well serve to illustrate these points:

> Yo pienso que la cuenta de Twitter sirve más bien para mostrar los logros más impactantes, como para enganchar, o sea de gancho a la gente. La web sería para que uno que ya sabe más o menos en qué consiste el proyecto, pueda informarse más en detalle, porque hay muchos más contenidos. Y el Twitter sería para dar una noticia bomba, como "hemos operado un reactor no convencional durante 300 horas", que es uno de los tuits que uno de los colaboradores del proyecto publicó.
>
> [I think that the Twitter account rather serves to showcase the most impactful achievements, by way of a hook for the public. The web would be for a reader that more or less knows what the project is about to be informed in greater detail, since there are many more contents. And Twitter

> would be to launch breaking news, as "we have operated an unconventional reactor during 300 hours", which is one of the tweets that one of the project collaborators published.]
>
> (Informant 3 – IRP21)

On the whole, this chapter has shown the saliency and use of the data-driven pragmatic strategies identified in the exploration of the EUROPRO Digital Corpus. The resulting taxonomy around three pragmatic macrocategories and 27 specific strategies has been conceptualised, and findings have been offered both for the sections within the EUROPROwebs Corpus and for the EUROPROtweets Corpus. In addition to frequencies of the pragmatic strategies across the *About, Partners* and *News & Events* sections and in the Twitter accounts of research projects, a purposeful analysis of the role of multimodality in the *Homepage* has been foregrounded. After having deployed and discussed the main results of the study proposed in this PhD thesis, the final chapter provides the concluding remarks, pointing at implications, limitations and prospective directions.

Chapter 6

Concluding remarks

This final chapter intends to draw insights from the data-driven findings identified, attending to the principal theoretical tenets and methodological concerns stated in the PhD thesis. Implications are overall raised as for research project communication in digital genres and media, and how this type of specialised discourse can be investigated from a pragmatic perspective. First, Section 6.1 recapitulates the results of the analysis of pragmatic strategies in research groups' digital practices (project websites and Twitter accounts), offering an answer to the research questions driving the study. Second, Section 6.2 provides a reflection about the potential limitations that may surround the study. Emphasis is made on the complexities of compiling large digital corpora as well as on the inevitable subjective standpoint in pragmatic analyses where one-to-one equivalence between textual evidence and pragmatic categories is not straightforward. Then, Section 6.3 highlights the implications of the findings and their potential applications in professional and educational environments, highlighting the social transfer of this investigation. Finally, Section 6.4 aims to open research paths to continue the work presented in this PhD thesis. Among others, the replicability of the taxonomy in analogous contexts, a greater systematicity in the multimodal analysis and the consideration of altmetrics in the analysis of social media are pondered as fruitful directions to expand the analysis of research project digital communication both pragmatically and from other analytical frameworks.

6.1. Summary of findings

The roles and duties of scholars have nowadays expanded exponentially as a consequence of globalisation processes and the relevance of digitally-mediated communication. This paradigm change has triggered the notion 'Scholarship 2.0', parallel to the use of notions such as Web 2.0 and Science 2.0, alluding to the figure of the researcher in the 21st century, who is expected to contribute as well to knowledge distribution and science dissemination. In scholarly contexts, collaboration has been made visible in the shape of international and multidisciplinary projects where researchers join forces to have a far-reaching impact on the scientific community and society. To carry out such projects, research groups necessitate public or private funding from organisational frameworks and commissions and, when granted, take on a number of responsibilities in exchange. The R&I Horizon2020 programme epitomises this scenario, seeking to encourage scientific excellence and innovation. In showing accountability towards the programme, research groups strategically set up Plans for the Exploitation and Dissemination of Results (PEDR), where a fundamental part involves the development of digital discursive practices to bolster the communication of project information online.

In light of this context, the ultimate aim of this PhD thesis has been to identify and understand the situated deployment of pragmatic strategies when research groups specifically communicate through digital genres and media to share information about their projects. The focus has been on how they pragmatically encapsulate their intentions for the circulation of new knowledge, the distribution of their outcomes and outlets and the interaction with diversified (imagined) digital users. Among research groups' digital repertoire, Research Project Websites (RPWs), as a specific instantiation of the website, are assigned an increasingly relevant function. This object of study has not been long investigated and demands more research efforts to comprehend how it is used, what functions it fulfils and in what ways it can be exploited within scholarly and scientific environments.

Stemming from the study presented in this PhD thesis, three interconnected functions have been advocated in the use of RPWs: i) accounting for the research progress and the project members' involvement and collaboration, in particular towards the program funding the project economically; ii) describing general information and specific details about the intricate methods and specialised concepts partners/groups employ for the investigation within their concrete research field; iii) disseminating and underlining the novelty, importance and impact of the research for their specific discipline and for different sectors of the society based on their results and outreach. As illustrated in Figure 2.2, these goals are pursued towards diversified audiences that comprise peers as well as other users (beneficiaries, stakeholders, lay citizens). Yet, research groups can only imagine who consumes the content published about the project, and that intended audience may coincide with the real one or indeed be different, as was represented in Figure 4.3.

The structure and design of RPWs has been argued to be characterised by the use of specialised discourse, as well as by the prevalence of the verbal mode. A spectrum of web sections homogeneously features these websites to fulfil research groups' various communicative purposes. At the core lie (1) the *About* section, in which the project rationale is unveiled and the main objectives and characteristics described; (2) the *Partners* section, devoted to the introduction of the research team, usually emphasising the members' disciplinary and professional context and

justifying their involvement in the project; and (3) the *News & Events* section, which reports through narrative texts project-related miscellanea, from events attended and publications released by the research group to activities linked to the project, experiments tested, training available and facts and discoveries about the research topic. Other sections complementing these three appear to display a greater level of heterogeneity, such as the *Output* section, to collect the publications and materials of the project, the *Work Packages* section, to communicate the stages and blocks into which the investigation has been divided; and the *Contact* section, to provide a direct way of information exchange between the research consortium and digital users. To bring together all these contents into 'a coherent unit of webpages' (Brügger 2009), the *Homepage* allows users to establish a hierarchy of web sections, webpages within the web sections, webpages within other webpages, and texts within those webpages. Although users can activate other URLs, *Homepages* are crafted to be the natural point of access to a website, metaphorically described as 'landing pages', 'entrance windows' or 'an open door'. They are accordingly designed to appeal the readership and catch their attention, be expository and indicative of the structure of the web, and look fashionable and dynamic enough. To meet those ends, combined meanings are often constructed by leveraging the visual mode.

Moreover, Twitter has also been inquired as another digital practice within research groups' repertoire and a favoured option within the set of social media platforms. Research efforts have addressed the analysis of Twitter in various communicative situations, but a gap was spotted concerning its particular use as Social Media for Research Dissemination Purposes, in which its intrinsic communicative and technical affordances are beneficial for the distribution of scientific information. In conceptualising funded research groups' use of Twitter, Yang's (2016, 2017) dichotomy, applied to genres as 'host' or 'appendant/attendant', has been suitably employed to pinpoint the relationship between the two digital practices under study. Whereas the RPW is more closely connected with academic endeavours and occupies a central role in the communication of the projects, SNSs are optionally maintained and hold a satellite position that complements and benefits the host practice. The interactive potential of Twitter was therefore worth analysing, looking into the function of technical affordances like mentioning, hashtagging, retweeting and replying.

Not only have the objects of study discussed in this PhD thesis been quite unexplored so far, but the multi-layered analytical perspective adopted to the study of research project communication, fundamentally resting on the field of Pragmatics, is meant to be innovative, too. In trying to attain a holistic analysis, the pragmatic study has relied on the tenets put forward by other research fields and methodologies. This is the case of the framework of Digital Discourse Analysis (DDA), which has served as an umbrella to locate the discourse unfolding in RPWs and TRDP, Genre Studies, which has facilitated the understanding of users' communicative purposes and textual conventions, as well as the field of Corpus Linguistics, which has been utilised to compile a representative and updated sample of research groups' digital practices. Furthermore, assets from the frameworks of Multimodality and Ethnography have been pondered to complement the analysis yielded from the pragmatic study. They both amplify the insights gained into the pragmatic strategies, the former by recognising the multiplicity of modes in the design of these texts and the latter by helping to retrieve contextual data to comprehend the

conceptualisation of international research projects and to corroborate interpretations of the findings obtained and more fully understand research groups' digital practices. In all, I have sought to tackle the analysis of pragmatic strategies in research project communication from a multifaceted theoretical and methodological approach that could ensure a more holistic representation of international research groups' digital practices.

In trying to respond to **RQ1 about which pragmatic strategies are prominent in research group's practices to communicate their investigations**, a data-driven process has given way to a taxonomy featuring research groups' salient pragmatic strategies, based on the analysis of the EUROPRO Digital Corpus.

The compilation that I carried out of such a specialised corpus (consisting of the EUROPROwebs and the EUROPROtweets Corpora) was a prior step to the analysis and allowed to search for research groups' most meaningful intentions when disseminating information about their projects in digital settings. Rather than an aprioristic application of well-established pragmatic theories (e.g. Speech Act Theory, Relevance Theory, Politeness Theory), **a data-driven process** was followed, which proved fruitful to determine fine-grained communicative intents salient in the digital repertoire of research groups and made visible through 'pragmatic strategies'. I have put forward the components enclosed in the deployment of pragmatic strategies, advocating for the information about intentions, processes and practices that strategies can uncover in digitally-mediated communication. Methodological approximations to the analysis of pragmatic strategies have been underscored, too, arguing for the need to work with empirical evidence, inductively analysing this evidence, guaranteeing a spiral process in the analysis, and taking an ecological view on the whole piece of research. Departing from these careful theoretical and methodological assumptions, a definition of 'pragmatic strategic' has been offered.

The data-driven analysis, carried out through the CAQDAS NVivo, enabled me to design **a taxonomy** where the context-situated strategies were coded, organised and retrieved. A bottom-up approach led to the identification of a total of 27 pragmatic strategies, which have been classified into three overriding macrocategories. The informative macrocategory includes 10 strategies, the promotional one comprises 9 and the interactional macrocategory encompasses 8. Several prunings of the taxonomy were called for in the data-driven process, in order to clearly delineate the scope of the strategies. Such revisitation entailed the reformulation of some labels chosen for the strategies as well as the reconsideration of the function of digital affordances in research project websites and Twitter (e.g. hyperlinks, hashtags).

To provide an answer to **RQ2, the use of the pragmatic strategies identified has been looked into in the two objects of study, namely research project websites and Twitter accounts**, with the aim of finding out about and comparing their saliency and frequency. Differences have been found in the use of each of the three macrocategories and in the preferred pragmatic strategies within the three sections primarily studied (the *About* section, the *Partner* section and the *News & Events* section). **In the *About* section**, the promotional and the informative macrocategories are equally prominent, and much more largely deployed than the interactional one. Yet, the most frequently employed informative strategy is [INF01] "Informing

about the aim of the research", epitomising the ultimate intention of research groups in this web section. To its instantiation, two complementary strategies are helpfully subsumed, namely [INF09] "Enumerating research- and topic-oriented elements" and [INF08] "Clarifying technical and scientific terms". By listing ideas and notions in sequences and providing definitions of complex concepts related to the project, research groups accomplish to claim the mission of their projects and make it approachable for the wide public. In the promotional macrocategory, the frequency of the strategies is headed by [PRO01] "Stating the benefits and impact of project research". Then, [PRO06] "Emphasising the quality and novelty of outreach" follows. Both strategies are sketched to target different intentions, in that [PRO01] focuses on the advantages of the project within the disciplinary field and the repercussion for the academic and professional world, whereas [PRO06] forwards prospective and practical ways in which the research undertaken would be profited by others. In support of these two strategies, [PRO02] "Underlining relevance and value through figures" is the third most frequent promotional strategy. Finally, [INT08] "Making information visually salient" outscores the rest of interactional strategies, stemming from the structural function of headings to organise the project information, as well as the attention-getting function of typographic resources to underline the gist within the webpage. With much lower frequencies, [INT01] "Guiding the audience to perform an action" and [INT03] "Inviting the audience to consume research project output" complete the top-three strategies in the interactional macrocategory.

In the *Partners* section, the interactional macrocategory is surprisingly the most prominent one, closely followed by the informative one. Complying with the utmost communicative purpose of these webpages, the most salient informative pragmatic strategy is [INF05] "Disclosing information about researchers". As in the *About* section, [INF09] "Enumerating research- and topic-oriented elements", in second place, serves analogous purposes of exemplification and evidencing about project-related matters. [INF01] "Informing about the aim of research" in *Partners* sections is the third most frequent informative strategy, prioritising both the project objectives in general and the partners' research goals in particular. Regarding promotional strategies, [PRO04] "Highlighting members' contribution to the project" and [PRO02] "Underlining relevance and value through figures" display almost the same frequency of use. While the former is normally interspersed with [INF05] as the primary strategies to build the description of project members, the latter is usually subsumed to the previous combination and reinforces the promotional cues in the *Partners* section by uncovering numerical data. Also common to these webpages is the deployment of [PRO07] "Acknowledging external or self-praise", by which a positive face is pursued and the collective identity of the project is foregrounded, as also corroborated by informants. [INT08] "Making information visually salient" accounts for half of the interactional strategies deployed in these webpages, concurring with the use made in the *About* section of typographical mechanisms, in terms of size, font and colour. The remaining two most important strategies within this macrocategory are [INT01] "Guiding the audience to perform an action" and [INT07] "Offering contacts for information". [INT01] is employed for readers to take specific courses of action, namely visiting the project-hosted or institutional webpages of the partners (through internal and external hyperlinks, respectively). [INT07], which is only found within the top-three promotional strategies in the *Partners* section,

is the principal asset enabling the possibility of researchers and their imagined audience to interact in a bidirectional way.

In the *News & Events* section, the informative macrocategory prevails over the promotional and interactional ones. Nearly sharing the first position are found [INF09] "Enumerating research- and topic-oriented elements" and [INF03] "Giving specific details about an event". [INF09] is brought to the fore to convey other primary intentions and facilitate the reading of the texts, while [INF03] regularly cuts across the entire posts published. Strikingly enough, [INF05] "Disclosing information about researchers" is the third most prominent informative strategy over others which could be assumed to feature more frequently, like [INF06] "Presenting the content of outreach" and [INF02] "Stating general background of the project", which could be geared towards diminishing readers' potential 'knowledge asymmetries' (Engberg and Maier 2015b). Promotional strategies reveal the privileged position of [PRO02] "Underlining relevance and value through figures" and [PRO04] "Highlighting members' contribution to the project". In both cases, their scope varies from one post to the next, and they tend to be integrated into more encompassing strategies, such as [INF03] "Giving specific details about an event" and [PRO08] "Accounting for project productivity", which is actually the third most frequent promotional strategy. Eventually, the macrocategory of interactional strategies is headed by [INT08] "Making information visually salient", similarly to the results in the two other web sections. Yet, in this section it is more tightly followed by [INT01] "Guiding the audience to perform an action". Third, [INT03] "Inviting the audience to consume research project output" and [INT04] "Fostering networks" are found to be equally frequent in the *News & Events* section. [INT03] not only revolves around the release of academic papers, but also hints at the growing production by research groups of 'secondary output' (Puschmann 2015), such as newsletters, leaflets, posters and videos. [INT04] emphasises the effort made in these posts to indirectly connect with diversified audiences. Credit is given to sister projects, institutional frameworks, collaborators and beneficiaries, favouring on the whole the networking axes conceptualised as *up* and *out* (Figure 5.1).

Out of the results attained and the qualitative exploration of the EUROPROwebs Corpus, **systematic combinations of pragmatic strategies** have been drawn, highlighting a sort of rhetorical structure for these web sections. These templates (see Figure 5.3, Figure 5.4 and Figure 5.5 for a fuller account) remark the central role of some strategies, the permeating function of other embedded ones to amplify the pragmatic force of the former, and the optional insertion of others in the enactment of research groups' intentions. Figure 6.1 recapitulates the main trends identified in the combination of pragmatic strategies as used by international research groups across the web sections analysed:

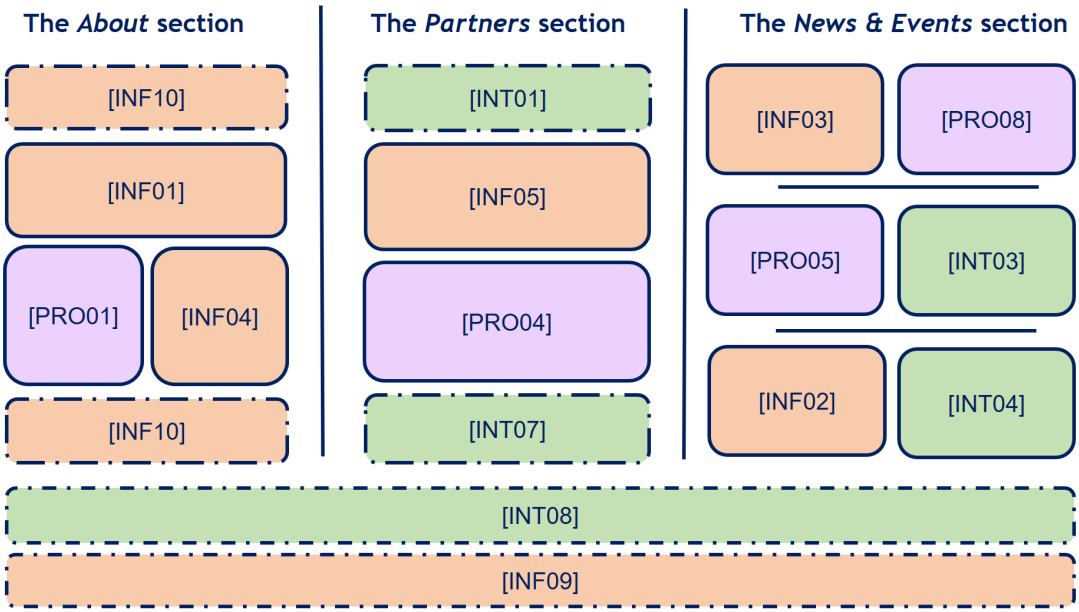


FIGURE 6.1. Templates depicting salient combinations of pragmatic strategies in the web sections of the EUROPROwebs Corpus.

Two pragmatic strategies are common to the three web sections scrutinised and permeate the text in which other primary strategies are deployed. These comprise [INT08] "Making information visually salient" and [INF09] "Enumerating research- and topic-oriented elements", represented at the bottom of the figure. More concretely, in the *About* section, the prototypical pattern consists of [INF01] "Informing about the aim of the research", [PRO01] "Stating the benefits and impact of the project" and [INF04] "Reporting on research procedure", and placed at the top or at the bottom [INF10] "Acknowledging research funding". In the *Partners* section, the structure entails [INF05] "Disclosing information about researchers" plus [PRO04] "Highlighting members' contribution to the project", being [INT01] "Guiding the audience to perform an action" and [INT07] "Offering contacts for information" fundamentally instantiated at the beginning or end of these texts. Lastly, in the *News & Events* section, three parallel possibilities are pointed out, as posts may deal with more heterogeneous content about the project. The identified patterns involve 1) [INF03] "Giving specific details about an event" + [PRO08] "Accounting for project productivity"; 2) [PRO05] "Spreading a piece of output" + [INT03] "Inviting the audience to consume research project output"; and 3) [INF02] "Stating general background about the project" + [INT04] "Fostering networks".

As the other essential component of **RQ2, Twitter has also been investigated as for the saliency and frequency of the data-driven pragmatic strategies**. The top-three strategies within the informative macrocategory (namely [INF03] "Giving specific details about an event", [INF10] "Acknowledging research funding" and [INF02] "Stating general background of the project") score very similar frequencies. They demonstrate how in Twitter the focus is on informativity through the circulation of project-related data and accountability through the demonstration of the activities done and the recognition to the funding body. Data from the promotional macrocategory confirm these findings, as [PRO08] "Accounting for project productivity", [PRO04] "Highlighting members' contribution to the project" and [PRO05]

"Spreading a piece of output" clearly outnumber the rest of promotional strategies. They are directed, then, to foster the multi-faceted identity of the project and to increase their visibility and credibility by claiming what the consortium is doing and publishing. Eventually, interactional strategies with the highest frequencies comprise [INT04] "Fostering networks", [INT08] "Making information visually salient" and [INT01] "Guiding the audience to perform an action". While the first and third ones evidence the interactive potential of Twitter to contact the wide public and a diversity of specialised and non-specialised users, the second one is found to rely on the technical affordances of this social medium, such as emojis.

The comparative perspective between RPWs and the Twitter accounts yielded insightful results as well. Whereas informative strategies are very similarly represented in the EUROPROwebs and EUROPROtweets Corpora, and the interactional ones expectedly predominate in the Twitter accounts, promotional strategies are surprisingly found to be more recurrently deployed in RPWs than in tweets. This could signal the lack of awareness by researchers of the potential that Twitter may have to foster the self-branding of their work and enhance their digital identity.

Finally, **RQ3 attempted to unveil the interplay accomplished in research project websites through verbal and visual modes**. In that pursuit, a qualitative analysis has been tackled on the digital genre of *Homepages* within RPWs, in which the study of pragmatic strategies was combined with a multimodal approach. *Homepages* were selected for such an endeavour because of their inherent multimodal nature, clearly distinguishable from the more strongly verbally-based design of the rest of web sections. The analytical notion of 'clusters' (Baldry and Thibault 2006), as organisational units that together make up the structure of digitally-native multimodal texts, was employed to identify multimodal patterns in the conveyance of pragmatic strategies. Departing from the model proposed by Corona (2021), six clusters are pinpointed as significant in research project *Homepages* (*Header, Project Information, News & Events, Outreach, Partners* and *Footer*), in that prototypical order as users scroll down the *Homepage*. Out of them, informative strategies are especially meaningful in the clusters labelled *Project information*, as could be expected; promotional strategies are particularly salient within the *Header*, the *Outreach* and the *News & Events* clusters; and interactional strategies stand out in the *News & Events* and *Partners* clusters and in the *Footer*.

The *Header* is found to feature a high density of multimodal elements and sites for action, where the visual mode helps enhance users' navigating mode. The framing of the *Header* is homogeneous and there is consistency in the elements included (e.g. website menu, project motto, background pictures). The cluster *Project information* presents a higher degree of heterogeneity in terms of content design and favours the verbal mode for the project description. Low modality pictures are systematically inserted to self-brand the project through its logo, and allegorical icons are employed to ease the understanding of the disciplinary background and key concepts of the project by the imagined audiences. In the cluster *News & Events*, research groups prioritise the latest posts published, but include more entries to stress their productivity. A balanced use of verbal and visual elements is usually displayed, with pieces of news organised in grid templates. The textual previews offered in each box of the grid mainly follow promotional purposes. The

cluster *Outreach* is observed to be more optional than others. Although this cluster may present more technical information, clear structures with framing devices are used to guide users as efficiently as possible, and explanatory abstract icons assist in the contextualisation of the data provided. As other clusters, it primarily contains promotional strategies. Clusters devoted to *Partners* show the greatest variability in their multimodal configuration, going from grids containing research members' hyperlinked logos to verbal explanations and high modality images –with a preference for personal pictures– to bring users closer to the project. In *Partners*, the informative strategy [INF05] "Disclosing information about research members" is normally fused with the promotional one [PRO04] "Highlighting members' contribution to the project". Lastly, the *Footer* seems fairly consistent both in the pragmatic strategies and the multimodal ensembles employed to accomplish such intentions. Besides [INF10] "Acknowledging research funding", social media icons are sometimes linked here, and extra project information is provided for users (e.g. links, maps, personal details), contributing to [INT07] "Offering contacts for information".

Thus, the analysis unveils a high degree of homogeneity concerning content design and the deployment of pragmatic strategies in the *Homepage*, whereas there is room for heterogeneity in the visual design and the multimodal ensembles chosen to tap into the six clusters analysed. Consequently, research groups emphasise clusters of the *Homepage* with diverse levels of intensity and saliency to direct users' attention, but convey very much the same pragmatic intentions. The tandem of verbal and visual modes was explored to observe the potentialities in the multimodal configuration of RPWs, bearing in mind users' exploitation of digital affordances and their attempts to boost research communication with diversified audiences.

6.2. Limitations of the study

The pragmatic analysis presented in this PhD thesis has sought to identify and characterise research groups' digital practices for the communication of their international projects. Yet, in order to ensure the manageability and viability of this piece of research, some decisions have been made and some aspects left aside, which can be regarded as potential limitations for such an ambitious endeavour.

One of the main problems encountered lied in the systematic retrieval of web documents. Even though digital corpora are blooming for the study of current communicative situations, they require a time-consuming process that may harden the research tasks. The fact that the EUROPRO Digital Corpus was manually compiled has prevented me from working with a bigger corpus. Ongoing revision of the procedure to *download* and *store* the digital texts has been called for to guarantee rigour in this endeavour and validity of the corpus, at the expense of making effort to compile digital practices from a larger number of projects. Especially hindering was the retrieval of generic instantiations with an inherent multimodal composition, above all, *Homepages*. Their meaning-making potential beyond the purely verbal mode dragged out the compilation process to effectively capture their configuration prior to the pragmatic analysis. Likewise, the close reading of the texts published in research project websites and Twitter accounts was a necessary stage for the identification of pragmatic strategies, as well as for gaining insights into the dynamics around

this funding programme and the organisation of the research projects. The application of the resulting data-driven taxonomy of strategies through NVivo also demanded big efforts. The semi-automated possibilities for coding and analysing the EUROPRO Digital Corpus were helpful, but compelled me to revisit the analysis at several stages in search for systematicity. Despite small in quantity, it can be concluded, then, that the data sample of research projects is representative of the panorama of Horizon2020 research projects, and that this manual, laborious process in the investigation of the corpus has allowed for a very exhaustive analysis of research groups' digital practices.

To some extent, pragmatic research is imbued in a certain degree of subjectivity on the part of the analyst. This potential hurdle stems from the fact that most of the times it is not feasible to accomplish a one-to-one identification between linguistic evidence from corpora and the pragmatic categories to be investigated. Therefore, the design and application of the data-driven taxonomy may be influenced by the *eyes of the beholder* in so doing. Two complementary resolutions were adopted in trying to overcome a potential partiality in the interpretation of the results and thus ensure more analytical rigour. First, inter-coder and intra-coder reliability tests were undertaken to systematise the consistency of the investigation. Second, contextual data were retrieved from informants through the semi-structured interviews, with which to authenticate the findings obtained in the analysis. In this way, the possibly subjective view taken to the study of research groups' digital practices has tried to be mitigated. The implementation of Reception Studies could have helped measure the impact of research groups' pragmatic strategies more accurately, unveiling the perlocutionary effect on the audience, which could be contrasted with the findings in this PhD thesis.

Moreover, no statistical measurements were pursued in the mixed-method study of this PhD thesis. The analysis of research groups' pragmatic strategies has been presented through a quantitative approach unveiling the occurrence of the strategies and their frequency of use as well as a qualitative perspective digging into meaningful patterns and trends in the digital practices observed. However, the findings attained might have benefitted from statistical tests that could confirm the significance in the relative deployment of the macrocategories and pragmatic strategies per web section, as well as across web sections and between RPWs and Twitter accounts. Such a statistical standpoint might have assisted in evidencing the (dis)similarities found with respect to how pragmatic intention is deployed in the objects of study, especially bearing in mind the variability in the production of the digital practices scrutinised and the heterogeneity among the projects and research groups. One more aspect regarding statistical methods concerns the inter-coder reliability tests, for which (dis)agreement was not calculated. Obtaining numerical evidence of how the corpus was analysed could have increased the accuracy in the process in a more consistent way.

A further limitation may be found as regards the ethnographically-oriented approach taken in the study in the form of semi-structured interviews. In spite of the fact that researchers from the 30 H2020 projects were addressed to participate in the interviews, the access to informants was not an easy task. Their response was a bit low, as it usually happens in response retrieval, representing about 30% of the research projects out of the EUROPRO Digital Corpus. The COVID-19 pandemic did not facilitate at all the replication of the protocol of interviews at

later stages in the investigation. Additionally, the decision to conduct the interviews in Spanish as the mother tongue of the informants was fruitful not to obscure the integrity and trustworthiness of their actual opinions and attitudes, but brought along the translation of the ethnographic data into English. Therefore, the manual transcription process was time-consuming as well, although, on the other hand, it helped understand and maximise the responses recorded.

Finally, as an unavoidable variable rather than a limitation, the (inter)disciplinary fields of the research projects included in the EUROPRO Digital Database are restricted to a close number of research strands. It seems that, at present, institutional funding frameworks and bodies like the Horizon2020 programme may be favouring the granting of public expenditure to project proposals that mainly revolve around topics such as energy, sustainability and technology. Thus, the projects in the EUROPRO Digital Corpus, whose digital practices have been investigated, fall for the most part into the hard sciences. This is indicative of a current phenomenon in the application for international funded investigations and has prevented me from observing likely divergences in the communication of projects with other scientific goals. In future compilations, changes in this tendency could warrant a holistic analysis of the patterns and trends in a wider spectrum of disciplinary backgrounds and research areas (e.g. finances, law, psychology, education).

6.3. Implications and applications

The findings from the pragmatic study which this PhD thesis entails bring along multifarious implications for scholarly and scientific contexts. As a reminder, the compilation and pragmatic analysis of the EUROPRO Digital Corpus was targeted at unveiling how international research groups contributed through digital practices to building new knowledge and disseminating scientific information. One of the outcomes is, then, concerned with the *narrative* that the European Union expects from the funded projects with respect to the science dissemination and the communication and exploitation of the research results. This has been approached from the field of Applied Linguistics, and more specifically pragmatics, to acknowledge the fundamental role that language plays in those mentioned goals. The findings from this study might be helpful and applicable in the design of the RPW interface. Thus, the organisation of the layout and the contents of the various web sections scrutinised may be further exploited in alliance with the pragmatic data obtained, and this could overall contribute to enhancing web usability from a rhetorical, discursive and linguistic point of view. In all, it is hoped that the findings of this PhD thesis may help other research teams to carry out more elaborate and successful digital practices that foster the impact of their projects and strengthen the visibility of their work.

As such, **this study could be replicated** in the case of other projects, as long as two conditions are met, namely, that they rely on an international consortium of researchers and that they are granted financing to implement their investigation. This entails that, logically, the findings obtained may be of great interest first to projects participating in the transformed Horizon2020 programme, which is now called HorizonEurope, or in some of its inner integral programmes (e.g. Innovation Fund). Moreover, projects framed under the circumstances

mentioned and participating in other funding R&I schemes could also benefit from the insights gained in this PhD thesis. These would involve programmes for fellowship actions and training, networks organisations and join initiatives such as COST Action, EIT Grants, ERC Grants, Marie Skłodowska-Curie Actions, and joint initiatives like CHANSE and PRIMA, to name just a few.

Researchers working in projects at large may also consider the pragmatic results presented useful for their own digital communicative practices at different levels: international, national and local. **At an international level**, the findings could be transformed into practical guidelines that would enable research groups to more thoroughly prepare their communication plans (PEDR) and to raise awareness about effective ways to comply with the expectations of the funding programmes they apply for. Insights into the trends that prevail in the use of pragmatic strategies for research project communication could enable them to better draft their communication tactics and to try to reach more diversified audiences. **At a national level**, the investigation presented brings about implications for the improvement of digital scholarly practices in Spain, in ways in which research groups may achieve a more effective communication taking the example of other projects targeted at excellent science and collaboration. In this globalised era, these projects could also aspire to attain a higher reach and a more powerful impact by replicating good practices of digitally-mediated communication through the lens of pragmatic strategies. **At the local level**, the findings could be forwarded to research groups that are financed by regional governments and institutions and seek to make an impact in their corresponding contexts. This would allow, perhaps, a closer contact with these teams, being interesting to see whether the salient pragmatic strategies identified suit their needs and actual practices; or, in other words, how the deployment of pragmatic intention may be altered depending on the context. In the main, the pragmatic findings can be employed by research groups to purposefully address the beneficiaries and stakeholders of their projects.

The study also reflects on our understanding of **academic writing**. As shown in the analysis, when crafting their research project websites and maintaining their Twitter accounts, research groups make a series of compositional and discursive choices that tap into innovative processes that should be incorporated as part of the scholarly practices endorsed by researchers. It seems essential that authors develop skills to exploit the affordances of the digital medium and to raise awareness of phenomena such as genre hybridity, hypermediality and multimodality. Therefore, researchers' literacies could be enhanced in this direction, regarding academic writing in the digital medium as intrinsically multimodal, hypertextual and polyphonic, rather than based on the traditional weight of verbal, linear texts. To that end, the current functions of diverse digital practices within scholarly and scientific settings should be explored, as has been captured in RPWs and TRDP in this PhD thesis. Emphasis has been laid on the need to accrue high impact and the pursuit to reach both specialised and lay users. This piece of research is in line, then, with the 'publish and market' postulate, by which researchers not only seek to share their research findings through the written materialisation of their work, but are also concerned with the circulation of their outputs. At present, the necessity of producing and publishing research, in the backdrop of this PhD thesis about international projects, is accompanied by the desire to share one's work with others, with the aim of constructing knowledge more rapidly, more broadly and more efficiently.

To this regard, we should question whether the role of 'appendant' digital practices, embodied in the presented analysis in Twitter accounts for Research Dissemination Purposes (TRDP), is gaining momentum and to what extent they could be further maximised without detriment to 'host' practices. These wonderings may also lead to considering the dichotomy between 'primary' and 'secondary' outputs (Puschmann 2015), which still prevails in the current scholarly systems, as no longer valid for the globalised, digital society we live in. The impact of secondary output has changed the course of the ways of doing and communicating research, and this could be reflected in the institutional academic systems that surround the figure of the scholar.

From the insights explored so far, it seems that the study could be transferred to diverse professional sectors through numerous **pedagogical applications**. First, reports and guidelines disclosing the results (in terms of frequencies of the strategies, prototypical combinations and multimodal clusters) could be published based on the evidence obtained from the pragmatic and linguistic analysis. These would facilitate knowledge about research groups' common intentions when endorsing digital practices, as well as recognition of trends based on their use of digital media. Second, multimodal content could be created and released for its distribution among researchers who are members of (international) research projects and who are interested in improving their digital scholarly communication practices. On the whole, examples of good practices could be pinpointed and discussed with beneficiaries and stakeholders from the findings of this PhD thesis. Formats to enclose this content may comprise infographics, where tendencies in the deployment of pragmatic intentions can be rigorously presented; visual presentations, where more theoretical explanations can be mixed with the templates of combinations of strategies designed; and video pills, where pragmatic strategies may be shortly disclosed and tips can be shared. Third, workshops and training seminars could be organised with prospective research groups who have been granted funding for their upcoming projects. Tasks and discussion could be promoted to critically reflect on their intentions as researchers within a project consortium and on key notions presented in this pragmatic analysis, such as accountability, audience, visibility and identity. Implications could be drawn from all these actions as regards User Interface (UI) and the Public Engagement with Science (PES). Ultimately, the results unveiled might be of interest for managers and policy makers of the (inter)national funding frameworks and institutions, such as the H2020 programme. Collaboration could be fostered with them to dig into their requirements and expectations and use the findings to guide research projects towards them.

6.4. Future paths of research

The investigation presented in this PhD thesis has tried to depict how international research groups communicate information about their scientific projects in digitally-mediated settings from a pragmatic standpoint. However, to complement and expand the approximation of the analysis, many directions for future research can be opened up.

Firstly, the pragmatic study could be enlarged with **a bigger sample** of research project websites and Twitter accounts held by IRPs, as indicated in Section 6.2. Once the taxonomy of data-driven strategies has been designed and a point of saturation accomplished, the codification and analysis of pragmatic strategies could be applied to the EUROPRO Digital Database, containing other 70 research projects, in which a Spanish institution or university is involved as one of the consortium partners. Thus, the methodological training already achieved in the analytical process undertaken in this PhD thesis could greatly help in the semi-automated codification and interpretation of the remaining 70 RPWs and corresponding 58 Twitter accounts that were not selected for the study presented. This would ensure the observation at a bigger scale of representative patterns in the deployment of pragmatic strategies by research groups and would be beneficial to confirm the tendencies observed so far in the EUROPROwebs Corpus and the EUROPROtweets Corpus, respectively.

Secondly, the pragmatic analysis of strategies could be tackled in **other web sections** that are relatively recurrent in these research project websites, but were considered as 'optional/occassional' in the cline proposed in Section 3.1. These include the *Work Packages* sections, the *Output* sections and the *Contact* sections discussed in Subsection 4.1.5. Similarly, other SNSs could be investigated as part of research groups' repertoire of digital 'appendant' practices, such as Facebook and Instagram, to uncover their specific functions and observe how pragmatic strategies are deployed in these digital settings.

Thirdly, **genre networks** could be established to pinpoint the developing relationships among research groups' digital practices. The notions of genre chains, colonies and constellations could be of great use to explore how the generic instantiations published by research groups and updated for their projects are connected with the existence of previous genres –probably from the analogue medium, such as project proposals, research drafts and technical reports– and may give way to subsequent generic practices. In a similar vein, longitudinal analyses could be carried out, analysing the evolution of research project websites and Twitter accounts as well as how pragmatic intention is deployed at different stages throughout the duration of the projects.

Fourthly, another variable that could be incorporated into the study comprises the **use of languages other than English** for research project communication. Special attention could be paid to Spanish, not only because of personal and professional reasons, but also mainly for its being the second most employed language in the EUROPRO Digital Corpus (see Table 3.6). It would be interesting to sketch whether the intentions portrayed by research groups coincide or diverge when employing different languages. Insights could be gained into how pragmatic strategies are instantiated and which audience profiles are addressed in these alternative scenarios. In line with these ideas, contrastive analyses may also be fruitful between the digital practices endorsed by research groups who only disseminate project-related information through English, in its role as the academic lingua franca (Mauranen, Hynninen and Ranta 2010, 2016), and research groups at a national level that mostly employ Spanish for the communication of their projects.

Subsequently, the realisation of the data-driven pragmatic strategies identified could be studied in depth to discover recurrent **patterns at the lexico-grammatical, syntactic and orthotypographic levels** of the language in relation to research groups' expression of pragmatic

intention. At this juncture, the role of medium-dependent communicative and technical affordances should be integrated. Corpus evidence could shed light on prototypical discursive associations put forward within this scholarly and scientific context. Preliminary attempts have been made at the interplay of pragmatic strategies and metadiscursive categories in the EUROPROtweets Corpus as a first step towards that end. The study led to proposing readjustments of the Hylandean framework of metadiscourse (cf. Hyland 2005) and accounting for multimodal and hypermodal elements, such as emojis, mentions and hashtags, as metadiscursive markers (cf. Pascual and Mur-Dueñas 2022; Mur-Dueñas and Pascual 2023). These studies could help in the identification of successful practices and could serve to offer training to scholars and scientists embarked in funded research projects.

Moreover, **the role of multimodality** could be analysed more deeply. Such an effort would serve to further elaborate on the perspective entrenched in what I have coined as *Digital Multimodal Pragmatic Analysis* (DMPA). A larger sample of research project *Homepages* could back up the prominence of the clusters pinpointed and a quantitative approach would enhance the patterns qualitatively observed in Subsection 5.2.4. Other multimodal elements that may permeate these RPWs are also worth analysing, especially images and videos. The classification proposed between conceptual images (thematic and allegorical) and illustrative images (personal and technical) could be more deeply investigated in the whole EUROPRO Digital Corpus to observe associations between the web sections and the use of certain types of images. The multimodal ensembles enclosed in web-generated images could also be investigated, taking them as another object of study through which research projects foster the distribution of project information, both in RPWs and Twitter. A multimodal analysis of project-related videos would be of interest to touch upon research groups' audiovisual generic practices and see how pragmatic strategies are encoded through them.

Ethnographically-informed data could be enhanced as well. The first step would involve trying to reach a greater group of researchers with whom to conduct the interview protocol. Other possibilities comprise the design and administration of online questionnaires to researchers working collaboratively in international funded projects. A first step in this direction could lie in getting into contact with researchers from projects listed in the EUROPRO Digital Database. On top of open questions, which were the primary focus in the semi-structured interviews, other types of questions could be asked to inform in more detail the findings displayed in this study (e.g. Likert scale questions, multiple choice questions). In addition, as mentioned in the previous section, Reception Studies could be undertaken with general audiences so as to get feedback on the how they interpret the pragmatic strategies employed for research project communication. By the same token, F2F meetings and experimental tasks could be carried out with researchers in order to draw further implications on their role within the research projects and their perceived practices when communicating information about their investigations.

Other far-reaching future venues for research can be established, especially with a focus on the **reproducibility and replicability of the taxonomy** of pragmatic strategies. The analytical tool designed for this PhD thesis could be applied to research digital practices in professional and scientific contexts within and outside the scholarly sphere, maintaining the theoretical conceptualisation and methodological procedure discussed in Section 2.2 above. These could

comprise collectively-authored websites as digital practices of journalistic discourse, corporate communication, crowdfunding enterprises, popularisation and parascientific genres and even digital media for pedagogical and entertainment purposes. Websites where information is also spread out towards the wide public could be researched, such as museum websites, websites run by NGOs and forum-like websites (e.g. FAQ websites, *Ask a Scientist* websites).

Other digital genres and media should also be inquired into to complement the findings on research project websites and Twitter accounts, and thus obtain a more holistic picture of the range of digital practices that researchers are growingly endorsing in the Scholarship 2.0 paradigm. These could include scholarly genres such as research blogs, research digests, academic and professional bio profiles, scientific posters, e-reports, guidelines and deliverables. In addition, distinct Twitter accounts to the ones scrutinised also constitute possible avenues for research. Twitter accounts managed by other collective groups like corporations, commissions and organisations could be analysed. Microblogging practices developed by individual researchers could also be investigated as for their potential relationship with the accounts maintained for IRPs.

As stated above, the investigation of **other SNSs** would also be of interest in similar contexts to the one of research project communication, especially those which are close in their rationale to the technical infrastructure of Twitter, such as Facebook and Instagram. Other SNSs, more specifically oriented towards increasing researchers' networking opportunities and the visibility of their scientific production, could also be studied, such as LinkedIn, which in this study has been shown to be quite prominent in research groups' choices of social media (see Table 3.3), or ResearchGate and Academia.edu. Finally, social media used for broadcasting and livestreaming functions could be looked into, with an emphasis on YouTube, in order to uncover the full multimodal potential of the Web 2.0 and to investigate synchronous communication and sophisticated ways of bidirectional interaction among users.

Altogether, a complementary way to keep developing the taxonomy of pragmatic strategies would involve other researchers making use of this analytical tool for the digital environments mentioned above as well as other analogous contexts of scholarly and scientific communication.

On a different note, **further approaches** could be adopted for the study of digital discourse, in general, and within the context of scientific dissemination, in particular. Digital Discourse Analysis (DDA) is increasingly incorporating the meaning-making processes derived from computational agency in order to measure the effectiveness and impact of digitally-mediated communication. Such processes, which are inherent to the functioning of the Internet, involve the role of algorithms and notions like 'datafication' and 'metrification' (Maly 2022). Investigation into all these issues would require complementary analytical tools and other methodological perspectives. Search Engine Optimisation (SEO) could likewise be included in prospective studies to analyse how and why URLs are more or less prominently listed in users' searches. Altmetrics could also be regarded in investigations on social media to track the interactive potential and achieved impact of the texts published in them (thus gaining insights into the actual perlocutionary effect of both pragmatic strategies and digital affordances). In all, both these concepts influence the production and circulation of digital discourse and user-generated content. Relatedly, the future lines of research that I have traced could benefit from diverse frameworks

of Digital Humanities (DH), as an umbrella discipline that may encompass Artificial Intelligence (AI), Machine Learning (for example, by exploring Data Mining and Sentiment Analysis in Twitter) and Computational Linguistics in general (for example, for the compilation and analysis of large digital corpora).

As has been capitalised at the beginning of this PhD thesis, a globalised world demands globalised communication through digital media and our current society demands new ways of doing things. As one component in this reality, scholarship is definitely changing and we need to understand which directions it is taking and it is to take. Since collaboration, competitiveness for resources and funding, as well as knowledge dissemination are turning into must-do aspects for research groups, it is of great relevance to examine their digital communicative practices and study how they distribute new scientific information among the wide public and how they promote themselves. This PhD thesis has intended to contribute to this understanding by analysing pragmatically practices and trends in the current digital communication of research.

References

Adami, Elisabetta. 2015. What's in a click? A social semiotic framework for the multimodal analysis of website interactivity. *Visual Communication 14* (2), 133–153. https://doi.org/10.1177/1470357214565583

Ädel, Annelie. 2006. *Metadiscourse in L1 and L2 English*. John Benjamins.

Ädel, Annelie and Mauranen, Anna. 2010. Metadiscourse: Diverse and divided perspectives. *Nordic Journal of English Studies 9*, 1–11.https://doi.org/10.35360/njes.215

Adolphs, Svenja. 2008. *Corpus and Context: Investigating Pragmatic Functions in Spoken Discourse*. John Benjamins.

Adolphs, Svenja and Lin, Phoebe. 2013. Corpus linguistics. In James Simpson (ed.) *The Routledge Handbook of Applied Linguistics* (pp. 591–610). Routledge.

Aijmer, Karin. 2005. Evaluation and pragmatic markers. In Elena Tognini-Bonelli and Gabriela del Lungo Camiciotti (eds.) *Strategies in Academic Discourse* (pp. 83–96). John Benjamins. https://doi.org/10.1075/scl.19.07aij

Aijmer, Karin and Rühlemann, Christoph. (eds.). 2015. *Corpus Pragmatics: A Handbook*. Cambridge University Press. https://doi.org/10.1017/CBO9781139057493

Akin, Heather. 2017. Overview of the science of science communication. In Kathlee Hall Jamieson, Dan M. Kahan and Dietram A. Scheufele (eds.) *The Oxford Handbook on The Science of Science Communication* (pp. 1–17). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190497620.013.3

Allan, Keith. 1994. Indirect speech acts (and off-record utterances). In Ron Asher (ed.) *Encyclopedia of Language and Linguistics (Volume 3)* (pp. 1653–1656). Pergamon Press.

Allott, Nicholas. 2010. *Key Terms in Pragmatics*. Continuum.

Allwood, Jens. 1977. A critical look at speech act theory. In Östen Dahl (ed.) *Logic, Pragmatics and Grammar* (pp. 53–99). Studentlitteratur.

Andersen, Gisle. 2011. Corpus-based pragmatics in qualitative studies. In Wolfram Bublitz and Neal R. Norrick (eds.) *Foundations of Pragmatics* (pp. 587–627). De Gruyter Mouton.

Androutsopoulos, Jannis. 2006. Introduction: Sociolinguistics and computer-mediated communication. *Journal of Sociolinguistics 10* (4), 419–438. https://doi.org/10.1111/j.1467-9841.2006.00286.x

Androutsopoulos, Jannis. 2008. Potentials and limitations of discourse-centred online ethnography. *Language@internet 5,* article 8. https://www.languageatinternet.org/articles/2008/1610

Androutsopoulos, Jannis. 2010. Localizing the global on the participatory web. In Nikolas Coupland (ed.) *The Handbook of Language and Globalization* (pp. 201–231). Wiley-Blackwell. https://doi.org/10.1002/9781444324068.ch9

Androutsopoulos, Jannis. 2011. From variation to heteroglossia in the study of computer-mediated discourse. In Crispin Thurlow and Kristine Mroczek (eds.) *Digital Discourse: Language in the New Media* (pp. 277–298). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199795437.003.0013

Androutsopoulos, Jannis. 2014. Moments of sharing: Entextualization and linguistic repertoires in social networking. *Journal of Pragmatics 73*, 4–18. https://doi.org/10.1016/j.pragma.2014.07.013

Androutsopoulos, Jannis. 2015. Networked multilingualism: Some language practices on Facebook and their implications. *International Journal of Bilingualism 19* (2), 185–205. https://doi.org/10.1177/1367006913489198

Androutsopoulos, Jannis and Beißwenger, Michael. 2008. Introduction: Data and methods in Computer-Mediated Discourse Analysis. *Language@Internet 5*, article 2. https://www.languageatinternet.org/articles/2008/1609/

Angouri, Jo. 2016. Online communities and communities of practice. In Alexandra Georgakopoulou and Tereza Spilioti (eds.) *The Routledge Handbook of Language and Digital Communication* (pp. 323–337). Routledge.

Arda, Zeynep. 2012. Academicians on online social networks: Visibility of academic research and amplification of audience. *Estudios sobre el Mensaje Periodístico 18 (Número Extraordinario Octubre),* 67–75. https://doi.org/10.5209/rev_ESMP.2012.v18.40888

Askehave, Inger and Nielsen, Anne Ellerup. 2005. Digital genres: A challenge to traditional genre theory. *Information Technology & People 18* (2), 120–141. https://doi.org/10.1108/09593840510601504

Austin, John L. 1962. *How to Do Things with Words.* Harvard University Press.

Bach, Kent and Harnish, Robert M. 1979. *Linguistic Communication and Speech Acts*. MIT Press.

Baker, Mona. 1992. *In Other Words: A Coursebook on Translation*. Routledge. https://doi.org/10.4324/9780203133590

Bakhtin, Mikhail M. 1981. *The Dialogic Imagination: Four Essays by M. M. Bakhtin* [translated by Caryl Emerson and Michael Holquist]. University of Texas Press.

Baldry, Anthony and Thibault, Paul J. 2006. *Multimodal Transcription and Text Analysis: A Multimedia Toolkit and Coursebook*. Equinox.

Bara, Bruno G. 2010. *Cognitive Pragmatics: The Mental Processes of Communication*. MIT Press. https://doi.org/10.7551/mitpress/9780262014113.001.0001

Bara, Bruno G. 2017. Cognitive Pragmatics. In Yan Huang (ed.) *The Oxford Handbook of Pragmatics* (pp. 279–299). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199697960.013.14

Barbour, Kim and Marshall, David. 2012. The academic online: Constructing persona through the World Wide Web. *First Monday 17* (9), 1–20. https://doi.org/10.5210/fm.v0i0.3969

Baron, Naomi, S. 2008. *Always on: Language in an online and mobile world.* Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195313055.001.0001

Baron, Naomi S. 2011. Foreword. In Crispin Thurlow and Kristine Mroczek (eds.) *Digital Discourse: Language in the New Media* (pp. xi–xv). Oxford University Press.

Baron, Naomi S. 2012. The impact of electronically-mediated communication on language standards and style. In Terttu Nevalainen and Elizabeth Closs Traugott (eds.) *The Oxford Handbook of the History of English* (pp. 329–340). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199922765.013.0029

Bartling, Sönke and Friesike, Sasha. 2014. Towards another scientific revolution. In Sönke Bartling and Sasha Friesike (eds.) *Opening Science* (pp. 3 –15). Springer. https://doi.org/10.1007/978-3-319-00026-8_1

Barton, David and Lee, Carmen. (eds.). 2013. *Language Online: Investigating Digital Texts and Practices.* Routledge. https://doi.org/10.4324/9780203552308

Bateman, John A. 2008. *Multimodality and Genre: A Foundation for the Systematic Analysis of Multimodal Documents.* Palgrave Macmillan. https://doi.org/10.1057/9780230582323

Bateman, John A. 2014. Developing a GeM (Genre and Multimodality) model. In Sigrid Norris and Carmen Daniela Maier (eds.) *Interactions, Images and Texts: A Reader in Multimodality* (pp. 25–36). De Gruyter Mouton. https://doi.org/10.1515/9781614511175.25

Bateman, John A., Wildfeuer, Janina and Hiippala, Tuomo. 2017. *Multimodality: Foundations, Research and Analysis – A Problem-Oriented Introduction*. De Gruyter Mouton. https://doi.org/10.1515/9783110479898

Baykoucheva, Svetla. 2015. *Managing Scientific Information and Research Data.* Chandos. https://doi.org/10.1016/C2014-0-03450-8

Bazerman, Charles. 1997. The life of genre, the life in the classroom. In Wendy Bishop and Hans Ostrom (eds.) *Genre and Writing: Issues, Arguments, Alternatives* (pp. 19–26). Heinemann.

Beißwenger, Michael. 2007. Corpora zur computervermittelten (internetbasierten) Kommunikation. *Zeitschrift für germanistische Linguistik 35* (3), 496–503. https://doi.org/10.1515/zgl.2007.035

Beißwenger, Michael and Pappert, Steffen. 2019. How to be polite with emojis: a pragmatic analysis of face work strategies in an online learning environment. *European Journal of Applied Linguistics 7* (2), 225–253. https://doi.org/10.1515/eujal-2019-0003

Beißwenger, Michael and Störrer, Angelika. 2008. Corpora of computer-mediated communication. In Anke Lüdeling and Merja Kytö (eds.) *Corpus Linguistics. An International Handbook (Volume 1)* (pp. 292–309). De Gruyter Mouton.

Belcher, Diane D. 2007. Seeking acceptance in an English-only research world. *Journal of Second Language Writing 16*, 1–22. https://doi.org/10.1016/j.jslw.2006.12.001

Bell, Roger T. 1998. Psychological/cognitive approaches. In Mona Baker and Gabriela Saldanha (eds.) *Routledge Encyclopedia of Translation Studies* (pp. 185–190). Routledge. https://doi.org/10.4324/9781315678627

Benson, Phil. 2017. *The Discourse of YouTube: Multimodal Text in a Global Context*. Routledge. https://doi.org/10.4324/9781315646473

Berkenkotter, Carol and Huckin Thomas N. 1995. *Genre Knowledge in Disciplinary Communication - Cognition/Culture/Power*. Lawrence Erlbaum.

Bernad-Mechó, Edgar. 2015. A Multimodal Discourse Analysis of linking metadiscursive elements in two opencourseware lectures (MOOCs). *Procedia - Social and Behavioral Sciences 212*, 61–66. https://doi.org/10.1016/j.sbspro.2015.11.299

Bernad-Mechó, Edgar. 2017. Metadiscourse and topic introductions in an academic lecture: A multimodal insight. *Multimodal Communication 6* (1), 39–60. https://doi.org/10.1515/mc-2016-0030

Bhatia, Vijay K. 1993. *Analysing Genre: Language Use in Professional Settings*. Longman.

Bhatia, Vijay K. 2002. Applied genre analysis: A multi-perspective model. *Ibérica 4,* 3–19. https://revistaiberica.org/index.php/iberica/article/view/502

Bhatia, Vijay K. 2004. *Worlds of Written Discourse: A Genre-Based View.* Continuum.

Bhatia, Vijay K. 2010. Interdiscursivity in professional communication. *Discourse & Communication 21* (1), 32–50. https://doi.org/10.1177/1750481309351208

Bhatia, Vijay K. 2012. Critical reflections on genre analysis. *Ibérica 24,* 17–28. https://revistaiberica.org/index.php/iberica/article/view/290

Bhatia, Vijay K. 2017. *Critical Genre Analysis: Investigating Interdiscursive Performance in Professional Practice*. Routledge.

Biber, Douglas, Conrad, Susan and Reppen, Randi. 1998. *Corpus Linguistics: Investigating Language Structure and Use*. Cambridge University Press.

Biber, Douglas and Jones, James K. 2009. Quantitative methods in corpus linguistics. In Anke Lüdeling and Merja Kytö (eds.) *Corpus Linguistics: An International Handbook (Volume 2)* (pp. 1286–1304). De Gruyter Mouton.

Bik, Holly M., Dove, Alistair D.M., Goldstein, Miriam C., Helm, Rebecca R., MacPherson, Rick, Martini, Kim, Warneke, Alexandria and McClain, Craig. 2015. Editorial: Ten simple rules for effective online outreach. *PLoS Computational Biology 11* (4), e1003906. https://doi.org/10.1371/journal.pcbi.1003906

Bird, Elizabeth S. 2009. The future of journalism in the digital environment. *Journalism 10* (3), 293–295. https://doi.org/10.1177%2F1464884909102583

Björkman, Beyza. 2011. Pragmatic strategies in English as an academic lingua franca: Ways of achieving communicative effectiveness? *Journal of Pragmatics 43,* 950–964. https://doi.org/10.1016/j.pragma.2010.07.0

Björkman, Beyza. 2014. An analysis of polyadic English as a lingua franca (ELF) speech: A communicative strategies framework. *Journal of Pragmatics 66,* 122–138. https://doi.org/10.1016/j.pragma.2014.03.001

Blommaert, Jan. 2005. *Discourse: A Critical Introduction*. Cambridge University Press. https://doi.org/10.1017/CBO9780511610295

Blommaert, Jan and Jie, Dong. 2010. *Ethnographic Fieldwork: A Beginner's Guide.* Multilingual Matters. https://doi.org/10.21832/9781847692962

Boczkowski, Pablo J. 2004. *Digitizing the News: Innovation in Online Newspapers.* MIT Press.

Bolander, Brook and Locher. Miriam A. 2014. Doing sociolinguistic research on computer-mediated data: A review of four methodological issues. *Discourse, Context & Media 3*, 14–26. https://doi.org/10.1016/j.dcm.2013.10.004

Bolaños Medina, Alicia, Rodríguez Medina, María Jesús, Bolaños Medina, Lydia and Losada García, Luis. 2005. Analysing digital genres: Function and functionality in corporate

websites of computer hardware. *Ibérica* 9, 123–147. https://revistaiberica.org/index.php/iberica/article/view/457

Bolter, Jay D. and Grusin, Richard. 2000. *Remediation: Understanding New Media*. MIT Press.

Bondi, Marina. 2018a. Blogs as interwoven polylogues: The dialogic action game. *Language and Dialogue 8*, 43–65. https://doi.org/10.1075/ld.00004.bon

Bondi, Marina. 2018b. Dialogicity in written language use: Variation across expert action games. In Edda Weigand and Istvan Kecskes (eds.) *From Pragmatics to Dialogue* (pp. 137–170). John Benjamins. https://doi.org/10.1075/ds.31.08bo

Bondi, Marina. 2022. Dialogicity in individual and institutional scientific blogs. In Pilar Mur-Dueñas and Rosa Lorés (eds.) *Scientific and Parascientific Communication*. Special Issue of *Publications 10* (1), 9. https://doi.org/10.3390/publications10010009

Bondi, Marina and Cacchiani, Silvia. 2021. Editorial. Knowledge communication and knowledge dissemination in a digital world. *Journal of Pragmatics 186*, 117-123. https://doi.org/10.1016/j.pragma.2021.10.003

Borgman, Christine L. 2007. *Scholarship in the Digital Age: Information, Infrastructure, and the Internet.* MIT Press. https://doi.org/10.7551/mitpress/7434.001.0001

boyd, d. 2002. *Faceted Id/entity: Managing Representation in a Digital World* [Master's Thesis]. Massachusetts Institute of Technology.

boyd, danah. 2011. Social network sites as networked publics: Affordances, dynamics, and implications. In Zizi Papacharissi (ed.) *Networked Self: Identity, Community, and Culture on Social Network Sites* (pp. 39-58). Routledge.

boyd, danah, Golder, Scott and Lotan, Gilad. 2010. Tweet, Tweet, Retweet: Conversational Aspects of Retweeting on Twitter. *Proceedings of 43rd Hawaii International Conference on System Sciences (HICSS-43)* (pp. 1–10). https://doi.org/10.1109/HICSS.2010.412

Boyer, Ernest L. 1990. *Scholarship Reconsidered: Priorities of the Professoriate*. Carnegie Foundation for the Advancement of Teaching.

Brand, Christiane. 2008. *Lexical Processes in Scientific Discourse Popularisation: A Corpus-Linguistic Study of the SARS Coverage*. Peter Lang.

Breeze, Ruth. 2021. Claiming credibility in online comments: Popular debate surrounding the COVID-19 vaccine. In Pilar Mur-Dueñas and Rosa Lorés (eds.) *Scientific and Parascientific Communication.* Special Issue of *Publications 9* (3), 34. https://doi.org/10.3390/publications9030034

Breeze, Ruth. 2022. Performing right-wing political identities on reader comments pages. *Pragmatics and Society 13* (1), 85–106. https://doi.org/10.1075/ps.18063.bre

Brown, Penelope and Levinson, Stephen C. 1987. *Politeness: Some Universals in Language Usage*. Cambridge University Press.

Brügger, Niels. 2009. Website history and the website as an object of study. *New Media & Society 11* (1–2), 115–132. https://doi.org/10.1177/1461444808099574

Bruns, Axel. 2007. *Produsage: Toward a Broader Framework of User-Led Content Creation*. Queensland University of Technology. https://doi.org/10.1145/1254960.1254975

Bruns, Axel. 2008. *Blogs, Wikipedia, Second Life, and Beyond: From Production to Produsage*. New York: Peter Lang.

Bublitz, Wolfram and Norrick, Neal R. 2011. Introduction: The burgeoning field of pragmatics. In Wolfram Bublitz and Neal R. Norrick (eds.) *Foundations of Pragmatics* (pp. 1–20). De Gruyter Mouton. https://doi.org/10.1515/9783110214260.1

Buckland, Michael K. 1991. Information as thing. *Journal of the American Society for Information Science 42* (5), 351–360. https://doi.org/10.1002/(SICI)1097-4571(199106)42:5%3C351::AID-ASI5%3E3.0.CO;2-3

Bucchi, Massimiano and Trench, Brian. (eds.). 2008. *Handbook of Public Communication of Science and Technology* [1st edition]. Routledge. https://doi.org/10.4324/9780203928240

Bucchi, Massimiano and Trench, Brian. 2014. Science communication research: Themes and challenges. In Massimiano Bucchi and Brian Trench (eds.) *Routledge Handbook of Public Communication of Science and Technology* [2nd edition] (pp. 1-14). Routledge. https://doi.org/10.4324/9780203483794

Bucchi, Massimiano and Trench, Brian. 2016. Science communication and science in society: A conceptual review in ten keywords. *Tecnoscienza: Italian Journal of Science & Technology 7* (2), 151–168.

Bucher, Taina. 2018. *If…Then: Algorithmic Power and Politics*. Oxford University Press. https://doi.org/10.1093/oso/9780190493028.001.0001

Buehl, Jonathan. 2022. Graphical abstracts: Visually circulating scientific arguments. In Cristina Hanganu-Bresch, Michael J. Zerbe, Gabriel Cutrufello and Stefania M. Maci (eds.) *The Routledge Handbook of Scientific Communication* (pp. 290–306). Routledge.

Bunt, Harry and Black, William. 2000. The ABC of computational linguistics. In Harry Bunt and William Black (eds.) *Abduction, Belief and Context in Dialogue: Studies in Computational Pragmatics* (pp. 1–46). John Benjamins. https://doi.org/10.1075/nlp.1.01bun

Cabrera, Daniel, Vartabedian, Bryan S., Spinner, Robert J., Jordan, Barbara L., Aase, Lee A. and Timimi, Farris K. 2017. More than likes and tweets: Creating social media portfolios for academic promotion and tenure. *Journal of Graduate Medical Education 9* (4), 421–425. https://doi.org/10.4300/JGME-D-17-00171.1

Caiazzo Luisa. 2011. 'Glocal' perspectives in the language of British and Indian university websites. In Marina Bondi, Silvia Cacchiani and Giuseppe Palumbo (eds.) *Clavier 09 Corpus Linguistics and Language Variation.* Special Issue of *Rassegna Italiana di Linguistica Applicata 1-2*, 99–116.

Caiazzo, Luisa. 2013. Factual reporting in the 'About' page of British University websites. In Maurizio Gotti and Carmen Sancho-Guinda (eds.) *Narratives in Academic and Professional Genres* (pp. 257–274). Peter Lang.

Caiazzo Luisa. 2014. Emerging conventions in the verbal component of the 'About' page of British university websites. In John A. Bateman, Paola Evangelisti and Vijay K. Bhatia (eds.) *Evolution in Genre: Emergence, Variation, Multimodality* (pp. 307–325). Peter Lang.

Calsamiglia, Helena. 2003. Popularization discourse. *Discourse Studies 5* (2), 139–146. https://doi.org/10.1177/1461445603005002307

Calsamiglia, Helena and van Dijk, Teun A. 2004. Popularization discourse and knowledge about the genome. *Discourse & Society 15* (4), 369–389. https://doi.org10.1177/0957926504043705

Cameron, Catherine Anne and Hutchison, Judith. 2009. Telephone-mediated communication effects on young children's oral and written narratives. *First Language 29* (4), 347–371. https://doi.org/10.1177/0142723709105313

Candlin, Christopher N. and Maley, Yon. 1997. Intertextuality and interdiscursivity in the discourse of alternative dispute resolution. In Britt-Louise Gunnarsson, Per Linell and Berndt Nordberg (eds.) *The Construction of Professional Discourse* (pp. 201–222). Longman.

Cardoso, Gustavo. 2002. 'Feel like going online?' Internet mediated communication in Portugal. *Information, Communication & Society 5* (4), 529–550. https://doi.org/10.1080/13691180208538804

Carrió-Pastor, María Luisa. 2021. Multimodal metadiscourse in digital academic journals on linguistics, engineering and medicine. In Rosa Lorés and Giuliana Diani (eds.) *Disseminating Knowledge: Digital Discourse in Academic and Institutional Contexts*. Special Issue of *European Journal of English Studies 25* (3), 259–279. https://doi.org/10.1080/13825577.2021.1988254

Carter-Thomas, Shirley and Rowley-Jolivett, Elizabeth. 2017. Open Science notebooks: New insights, new affordances. *Journal of Pragmatics 116*, 64–76. https://doi.org/10.1016/j.pragma.2016.12.003

Casañ-Pitarch, Ricardo. 2015. The genre 'about us': A case study of banks' corporate webpages. *International Journal of Language Studies 9* (2), 69–96.

Castells, Manuel. 2000. *The Information Age: Economy, Society and Culture, Volume I — The Network Society*. Blackwell.

Catenaccio, Paola. 2008. Press releases as a hybrid genre: Addressing the informative/ promotional conundrum. *Pragmatics 18 (1),* 9–31. https://doi.org/10.1075/prag.18.1.02cat

Catenaccio, Paola. 2012. A genre-theory approach to the website: Some preliminary considerations. In Sandra Campagna, Giuliana Garzone, Cornelia Ilie and Elizabeth Rowley-Jolivet (eds.) *Evolving Genres in Web Mediated Communication* (pp. 27–52). Peter Lang.

Chen, Fei-Weng. 2016. Constructing hotel brands: A multimodal analysis of luxury hotel homepages. *Ibérica 31*, 83–108. https://revistaiberica.org/index.php/iberica/article/view/190

Cheplygina, Veronika, Hermans, Felienne, Albers, Casper, Bielczyk, Natalia and Smeets, Ionica. 2020. Ten simple rules for getting started on Twitter as a scientist. *PLoS Computational Biology 16* (2), e1007513. https://doi.org/10.1371/journal.pcbi.1007513

Choi, Koun and Liu, Yongcan. 2020. Challenges and strategies for ELF-aware teacher development. *ELT Journal 74* (4), 442–452. https://doi.org/10.1093/elt/ccaa036

Clancy, Brian and O'Keeffe, Anne. 2019. Corpus pragmatics. In Anne O'Keeffe, Brian Clancy and Svenja Adolphs (eds.) *Introducing Pragmatics in Use* (pp. 47–68). Routledge.

Coccetta, Francesca. 2021. Medical video abstracts and their subgenres: A phase-based approach to the detection of generic structure patterns. In Rosa Lorés and Giuliana Diani (eds.) *Disseminating Knowledge: Digital Discourse in Academic and Institutional Contexts*. Special Issue of *European Journal of English Studies 25* (3), 318–336. https://doi.org/10.1080/13825577.2021.1988264

Coffey, A. 2013. Analysing documents. In Uwe Flick (ed.) *The SAGE Handbook of Qualitative Data Analysis* (pp. 367–379). SAGE. https://doi.org/10.4135/9781446282243.n25

Collavin, Elena. 2011. Speech acts. In Wolfram Bublitz, and Neal R. Norrick (eds.) *Foundations of Pragmatics* (pp. 373–395). De Gruyter Mouton. https://doi.org/10.1515/9783110214260.373

Collins, Luke C. 2019. *Corpus Linguistics for Online Communication: A Guide for Research*. Routledge. https://doi.org/10.4324/9780429057090

Conole, Grainne and Dyke, Martin. 2004. What are the affordances of information and communication technologies? *Research in Learning Technology 12* (2), 113–124. https://doi.org/10.1080/0968776042000216183

Copland, Fiona and Creese, Angela. 2015. *Linguistic Ethnography: Collecting, Analysing and Presenting Data*. SAGE. https://dx.doi.org/10.4135/9781473910607

Corona, Isabel. 2020. Attending to the meaningful 'whole': Research from a multimodal perspective. Plenary talk at *SEING II (Predoctoral Seminar on English Studies)*. Universidad de Zaragoza (Spain), 25 September 2020.

Corona, Isabel. 2021. A window to the world: Visual design and research visibility of European research projects' homepages. In Rosa Lorés and Giuliana Diani (eds.) *Disseminating Knowledge: Digital Discourse in Academic and Institutional Contexts*. Special Issue of *European Journal of English Studies 25*, 355–371. https://doi.org/10.1080/13825577.2021.1988261

Costa, Cristina. 2016. Double gamers: Academics between fields. *British Journal of Sociology of Education 37* (7), 993–1013. https://doi.org/10.1080/01425692.2014.982861

Cougnon, Louise-Amélie and Fairon, Cédrick. (eds.). 2014. *SMS Communication: A Linguistic Approach.* John Benjamins. https://doi.org/10.1075/bct.61

Crawford Camiciottoli, Belinda. 2013. *Rhetoric in Financial Discourse: A Linguistic Analysis of ICT-Mediated Disclosure Genres*. Rodopi. https://doi.org/10.1163/9789401210102

Creswell, John W. 2007. *Qualitative Inquiry and Research Design: Choosing among Five Approaches* (2nd ed.). SAGE.

Creswell, John W. 2013. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE.

Crismore, Avon. 1989. *Talking with Readers: Metadiscourse as Rhetorical Act*. Peter Lang.

Crowston, Kevin. 2010. Internet genres. In John D. McDonald and Michael Levine-Clark (eds.) *Encyclopedia of Library and Information Sciences* (pp. 2503–2515). CRC Press.

Crowston, Kevin and Williams, Marie. 2000. Reproduced and emergent genres of communication on the World Wide Web. *Information Society 16* (3), 201–215. https://doi.org/10.1080/01972240050133652

Crystal, David. 2006. *Language and the Internet*. Cambridge University Press.

Culpeper, Jonathan and Gillings, Matthew. 2019. Pragmatics: Data trends. *Journal of Pragmatics 145*, 4–14. https://doi.org/10.1016/j.pragma.2019.01.004

Curry, Mary Jane and Lillis, Theresa M. 2010. Academic research networks: Accessing resources for English-medium publishing. *English for Specific Purposes 29* (4), 281–295. https://doi.org/10.1016/j.esp.2010.06.002

Curry, Mary Jane and Lillis, Theresa M. 2014. Strategies and tactics in academic knowledge production by multilingual scholars. *Education Policy Analysis Archives 22* (32), 1–28. http://dx.doi.org/10.14507/epaa.v22n32.2014.

Dainas, Ashley R. and Herring, Susan C. 2021. Interpreting emoji pragmatics. In Chaoqun Xie, Francisco Yus and Hartmut Haberland (eds.) *Approaches to Internet Pragmatics: Theory and Practice* (pp. 107–144). John Benjamins. https://doi.org/10.1075/pbns.318.04dai

Danesi, Marcel. 2016. *The Semiotics of Emoji: The Rise of Visual Language in the Age of the Internet*. Bloomsbury. https://doi.org/10.5040/9781474282024

Danet, Brenda. 2001. *Cyberpl@y: Communicating Online*. Berg.

Danet, Brenda and Herring, Susan C. 2007. *The Multilingual Internet: Language, Culture, and Communication Online.* Oxford University Press.

D'Angelo, Larissa. 2016. *Academic Posters: A Textual and Visual Metadiscourse Analysis*. Bern: Peter Lang.

Davies, Sarah, McCallie, Ellen, Simonsson, Elin, Lehr, Jane L. and Duensing, Sally. 2008. Discussing dialogue: Perspectives on the value of science dialogue events that do not inform policy. *Public Understanding of Science 18* (3), 338–353 https://doi.org/10.1177/0963662507079760

Davis, Jenny L. and Jurgenson, Nathan. 2014. Context collapse: Theorizing context collusions and collisions. Information. *Communication & Society 17* (4), 476–485. https://doi.org/10.1080/1369118X.2014.888458

Dayter, Daria. 2014. Self-praise in microblogging. *Journal of Pragmatics 61*, 91–102. https://doi.org/10.1016/j.pragma.2013.11.021

Dayter, Daria. 2018. Self-praise online and offline. *Internet Pragmatics 1*, 184–203. https://doi.org/10.1075/ip.00009.day

De Bartolo, Anna Maria. 2014. Pragmatic strategies and negotiation of meaning in ELF talk. *EL.LE: Educazione Linguistica. Language Education 3* (3), 453–464. http://doi.org/10.14277/2280-6792/115p

de Certeau, Michel. 1984. *The Practice of Everyday Life* [translated by Steven Rendall]. University of California Press.

De Groot, Elizabeth, Nickerson, Catherine, Korzilius, Hubertus and Gerritsen, Marinel. 2016. Picture this: Developing a model for the analysis of visual metadiscourse. *Journal of*

Business and Technical Communication 30 (2), 1–37. https://doi.org/10.1177/1050651915620235

De Schryver, Gilles-Maurice. 2002. Web for/as corpus: A perspective for the African languages. *Nordic Journal of African Studies 11* (2), 266–282.

Delfanti, Alessandro. 2015. Preprints and peer review: A lesson from physics. *Journal of Science Communication 14* (04), C05. https://doi.org/10.22323/2.14040305

Deumert, Ana. 2014. *Sociolinguistics and Mobile Communication*. Edinburgh University Press. https://doi.org/10.1515/9780748655755

Devitt, Amy J. 1991. Intertextuality in tax accounting: Generic, referential, and functional. In Charles Bazerman and James G. Paradis (eds.) *Textual Dynamics of the Professions: Historical and Contemporary Studies of Writing in Professional Communities* (pp. 336–357). University of Wisconsin Press.

Dillon, Andrew and Gushrowski, Barbara A. 2000. Genres and the WEB: Is the personal home page the first uniquely digital genre? *Journal of the American Society for Information Science 51* (2), 202–205. https://doi.org/10.1002/(SICI)1097-4571(2000)51:2%3C202::AID-ASI11%3E3.0.CO;2-R

Ditlevsen, Marianne G. 2011. Towards a methodological framework for Knowledge Communication. In Margrete Petersen and Jan Engberg (eds.) *Current Issues in Specialized Communication* (pp. 187–208). Peter Lang.

Djonov, Emilia. 2007. Website hierarchy and the interaction between content organization, webpage and navigation design. *Information Design Journal 15* (2), 144–162. https://doi.org/10.1075/idj.15.2.07djo

Djonov, Emilia. 2008. Children's website structure and navigation. In Len Unsworth (ed.) *Multimodal Semiotics: Functional Analysis in Contexts of Education* (pp. 216–236). Continuum.

Djonov, Emilia. 2013. Multimodality and hypermedia. In Carol Chapelle (ed.) *Encyclopedia of Applied Linguistics* (pp. 1–5). Wiley-Blackwell. https://doi.org/10.1002/9781405198431.wbeal0826

Djonov, Emilia. and Knox, John S. 2014. How-to-analyze webpages. In Sigrid Norris and Carmen Daniela Maier (eds.) *Interactions, Images and Texts: A Reader in Multimodality* (pp. 171–194). De Gruyter Mouton. https://doi.org/10.1515/9781614511175.171

Domínguez Silvia and Hollstein, Betina. (eds.). 2014. *Mixed Methods Social Networks Research Design and Applications*. Cambridge University Press. https://doi.org/10.1017/CBO9781139227193

Dor, Daniel. 2004. From Englishization to imposed multilingualism: Globalization, the Internet, and the political economy of the linguistic code. *Public Culture 16* (1), 97–118.

Dörnyei, Zoltán. 1995. On the teachability of communication strategies. *TESOL Quarterly 29* (1), 55-85. https://doi.org/10.2307/3587805

Dörnyei, Zoltán. 2007. *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Methodologies*. Oxford University Press.

Duffy, Brooke Erin and Pooley, Jefferson D. 2017. "Facebook for academics": The convergence of self-branding and social media logic on Academia.edu. *Social Media + Society 3* (1), 1–11. https://doi.org/10.1177/2056305117696523

Ebner, Martin and Schiefner, Mandy. 2008. Microblogging - More than fun? In Inmaculada Arnedillo Sánchez and Pedro Isaias (eds.) *Proceedings of IADIS Mobile Learning Conference 2008* (pp. 155–159).

Engberg, Jan. 2016. Conceptualising corporate criminal liability: Legal linguistics and the combination of descriptive lenses. In Girolamo Tessuto, Vijay K. Bhatia, Giuliana Garzone, Rita Salvi and Christopher Williams (eds.) *Constructing Legal Discourses and Social Practices: Issues and Perspectives* (pp. 28–56). Cambridge Scholars.

Engberg, Jan. 2021. Dissemination, popularization and vulgarization of science - How to distinguish them? Plenary Lecture at *InterGedi2021 International Conference: Digital Communication: Identity and Visibility in Research Dissemination.* Universidad de Zaragoza (Spain), 9-10 December 2021.

Engberg, Jan and Maier, Carmen Daniela. 2015a. Challenges in the new multimodal environment of research genres: What future do "Articles of the Future" promise us? In Natasha Artemeva and Aviva Freedman (ed.) *Genres Studies around the Globe: Beyond the Three Traditions* (pp. 225–250). Inkshed Publications.

Engberg, Jan and Maier, Carmen Daniela. 2015b. Exploring the hypermodal communication of academic knowledge beyond generic structures. In Marina Bondi, Silvia Cacchiani, and Davide Mazzi (eds.) *Discourse In and Through the Media: Recontextualizing and Reconceptualizing Expert Discourse* (pp. 46–65). Cambridge Scholars Publishing.

Engberg, Jan and Maier, Carmen Daniela. 2022. Multimodal generic trends of *Harvard Business Review* knowledge communication in and beyond social media context: Exploiting affordances, neglecting opportunities. In Pilar Mur-Dueñas and Rosa Lorés (eds.) *Scientific and Parascientific Communication*. Special Issue of *Publications 10* (1), 4. https://doi.org/10.3390/publications10010004

Englander, Karen and Corcoran, James N. 2019. *English for Research Publication Purposes: Critical Plurilingual Pedagogies*. Routledge. https://doi.org/10.4324/9780429053184

Erviti, María Carmen and Stengler, Erik. 2016. Online science videos: An exploratory study with major professional content providers in the United Kingdom. *Journal of Science Communication 15* (06), A06. https://doi.org/10.22323/2.15060206

Esposito, Antonella. (ed.). 2016. *Research 2.0 and the Impact of Digital Technologies on Scholarly Inquiry.* IGI Global. https://doi.org/10.4018/978-1-5225-0830-4

Evans, Ash. 2016. Stance and identity in Twitter hashtags. *Language@Internet 13,* article 1. https://www.languageatinternet.org/articles/2016/evans

Facchinetti, Roberta. 2021. News discourse and the dissemination of knowledge and perspective: From print and monomodal to digital and multisemiotic. *Journal of Pragmatics 175,* 195–206. https://doi.org/10.1016/j.pragma.2021.01.015

Fairclough, Norman. 1995. *Critical Discourse Analysis: The Critical Study of Language.* Routledge.

Fairclough, Norman. 2003. *Analysing Discourse: Textual Analysis for Social Research.* Routledge. https://doi.org/10.4324/9780203697078

Faulkner, Sandra L. and Trotter, Stormy P. 2017. Data saturation. In Jörg Matthers, Christine S. Davis and Robert F. Potter (eds.) *The International Encyclopedia of Communication Research Methods* (pp. 1–2). John Wiley. https://doi.org/10.1002/9781118901731.iecrm0060

Ferguson, Gibson, Pérez-Llantada, Carmen and Plo, Ramón. 2011. English as an international language of scientific publication: A study of attitudes. *World Englishes 30* (1), 41–59. https://doi.org/10.1111/j.1467-971X.2010.01656.x

Fernández-Vázquez, José-Santiago. 2020. Selling organic candy: Multimodal critical discourse analysis of commercial websites. *British Food Journal 123* (10), 3277–3292. https://doi.org/10.1108/BFJ-09-2020-0800

Fetzer, Anita. 2011. Pragmatics as a linguistic concept. In Wolfram Bublitz and Neal R. Norrick (eds.) *Foundations of Pragmatics* (pp. 23–50). De Gruyter Mouton. https://doi.org/10.1515/9783110214260.23

Fletcher, William H. 2011. Corpus analysis of the World Wide Web. In Carol A. Chapelle (ed.) *Encyclopedia of Applied Linguistics* (pp. 339–347). Wiley-Blackwell. https://doi.org/10.1002/9781405198431.wbeal0254

Fišer, Darja and Beißwenger, Michael. (eds.). 2017. *Investigating Computer-Mediated Communication: Corpus-Based Approaches to Language in the Digital World.* University of Ljubljana.

Fishman, Joshua A. 1998–99. The new linguistic order. *Foreign Policy 113* (Winter), 26–40. https://doi.org/10.2307/1149230

Fitzpatrick, Noel and Donnelly, Roisin. 2010. Do you see what I mean? Computer-mediated discourse analysis. In Roisin Donnelly, Jen Harvey and Kevin O'Rourke (eds.) *Critical Design and Effective Tools for E-Learning in Higher Education: Theory into Practice* (pp. 55–71). IGI Global.

Flick, Uwe. (ed.). 2014. *The SAGE Handbook of Qualitative Data Analysis*. SAGE.

Fløttum, Kjersti. 2005. The self and the others: Polyphonic visibility in research articles. *International Journal of Applied Linguistics 15* (1), 29–44. https://doi.org/10.1111/j.1473-4192.2005.00079.x

Fløttum, Kjersti. 2010. EU discourse: Polyphony and unclearness. *Journal of Pragmatics 42* (4), 990–999. https://doi.org/10.1016/j.pragma.2009.08.014

Flowerdew, John. 2002. Ethnographically inspired approaches to the study of academic discourse. In John Flowerdew (ed.) *Academic Discourse* (pp. 235-252). Longman.

Flowerdew, John and Habibie, Pejman. 2021. *Introducing English for Research Publication Purposes*. Routledge. https://doi.org/10.4324/9780429317798

Forceville Charles J. 2010. Review of Carey Jewitt (ed.) *The Routledge Handbook of Multimodal Analysis (2009)*. *Journal of Pragmatics 42* (9), 2604–2608. https://doi.org/10.1016/j.pragma.2010.03.003

Frehner, Carmen. 2008. *Email – SMS – MMS: The Linguistic Creativity of Asynchronous Discourse* in the New Media Age. Peter Lang.

Fusch, Patricia I. and Ness, Lawrence R. 2015. Are we there yet? Data saturation in qualitative research. *The Qualitative Report 20* (9), 1408–1416. https://doi.org/10.46743/2160-3715/2015.2281

Garcés-Conejos Blitvich, Pilar and Bou-Franch, Patricia. 2019. Introduction to analyzing digital discourse: New insights and future directions. In Patricia Bou-Franch and Pilar Garcés-Conejos Blitvich (eds.) *Analyzing Digital Discourse: New Insights and Future Directions* (pp. 3–22). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-92663-6_1

Garcés-Conejos Blitvich, Pilar and Sifianou, Maria. 2019. Im/politeness and discursive pragmatics. *Journal of Pragmatics 145*, 91–101. https://doi.org/10.1016/j.pragma.2019.03.015

Genette, Gérard. 1997. *Palimpsests: Literature in the Second Degree*. University of Nebraska Press.

Georgakopoulou, Alex, Iversen, Stefan and Stage, Carsten. 2020. *Quantified Storytelling. A Narrative Analysis of Metrics on Social Media.* Palgrave Macmillan.

Gibbs, Graham R. 2007. *Qualitative Research Kit: Analyzing Qualitative Data*. SAGE. https://doi.org/10.4135/9781849208574

Gibson, James J. 1977. The theory of affordances. In Robert E. Shaw and John Bransford (eds.) *Perceiving, Acting, and Knowing: Toward an Ecological Psychology* (pp. 67–82). Lawrence Erlbaum.

Gil-Salom, Luz and Soler-Monreal, Carmen. 2014. Introduction. In Luz Gil-Salom and Carmen Soler-Monreal (eds.) *Dialogicity in Written Specialised Genres* (pp. vii–viii). John Benjamins. https://doi.org/10.1075/ds.23.00intro

Gilbert, Nigel G. and Mulkay, Michael. 1984. *Opening Pandora's Box: A Sociological Analysis of Scientists' Discourse*. Cambridge University Press.

Gillen, Julia and Merchant, Guy. 2013. Contact calls: Twitter as a dialogic social and linguistic practice. *Language Sciences 35*, 47–58. http://dx.doi.org/10.1016/j.langsci.2012.04.015

Gilpin, Dawn R. 2011. Working the Twittersphere: Microblogging as professional identity construction. In Zizi Paparichissi (ed.) *Networked Self: Identity, Community and Culture on Social Network Sites* (pp. 232–250). Routledge.

Goffman, Erving. 1967. *Interaction Ritual: Essays in Face-to-face Behavior.* Aldine Transaction.

Gotti, Maurizio. 2014. Reformulation and recontextualization in popularization discourse. *Ibérica 27*, 15–34. https://revistaiberica.org/index.php/iberica/article/view/260

Grice, H. Paul. 1975. Logic and conversation. In Peter Cole and Jerry L. Morgan (eds.) *Syntax and Semantics 3: Speech Acts* (pp. 41–58). Academic Press.

Gries, Stephan Th. 2012. Corpus linguistics: Quantitative methods. In Carol A. Chapelle (ed.) *The Encyclopedia of Applied* Linguistics (pp. 1380–1385). Wiley-Blackwell. https://doi.org/10.1002/9781405198431.wbeal0258

Gross, Alan G. and Buehl, Jonathan. 2016. *Science and the Internet: Communicating Knowledge in a Digital Age*. Baywood Publishing. https://doi.org/10.4324/9781315231099

Gross, Alan G. and Harmon, Joseph E. 2016. *The Internet Revolution in the Sciences and Humanities.* Oxford University Press. https://doi.org/10.1093/oso/9780190465926.001.0001

Gruber, David R. and Olman, Lynda C. (eds.). 2019. *The Routledge Handbook of Language and Science*. Routledge. https://doi.org/10.4324/9781351207836

Gruber, Helmut. 1998. Computer-mediated communication and scholarly discourse: Topic initiation and thematic development. *Pragmatics 8* (1), 21–46.

Gruber, Helmut. 2017. Quoting and retweeting as communicative practices in computer mediated discourse. *Discourse, Context & Media 20*, 1–9. https://doi.org/10.1016/j.dcm.2017.06.005

Grundy, Peter. 1995. *Doing Pragmatics*. Arnold.

Gruzd, Anatoliy, Wellman, Barry and Takhteyev, Yuri. 2011. Imagining Twitter as an imagined community. *American Behavioral Scientists 55* (10), 1294–1318. https://doi.org/10.1177/0002764211409378

Guest, Greg, Bunce, Arwen and Johnson, Laura. 2006. How many interviews are enough? An experiment with data saturation and variability. *Field Methods 18* (1), 59–82. https://doi.org/10.1177/1525822X05279903

Guillén-Galve, Ignacio and Bocanegra-Valle, Ana. (eds.). 2021. *Ethnographies of Academic Writing Research: Theory, Methods, and Interpretation*. John Benjamins. https://doi.org/10.1075/rmal.1

Hafner, Christoph A. 2018. Genre innovation and multimodal expression in scholarly communication: Video methods articles in experimental biology. *Ibérica 36*, 15–42. https://revistaiberica.org/index.php/iberica/article/view/121

Halliday, Michael A. K. 1978. *Language as Social Semiotic: The Social Interpretation of Language and Meaning*. Arnold.

Hammersley, Martyn and Atkinson, Paul. 1995. *Ethnography: Principles in Practice*. Routledge.

Hanganu-Bresch, Cristina, Zerbe, Michael J., Cutrufello, Gabrielf and Maci, Stefania M. (eds.). 2022. *The Routledge Handbook of Scientific Communication.* Routledge. https://doi.org/10.4324/9781003043782

Hardaker, Claire and McGlashan, Mark. 2016. "Real men don't hate women": Twitter rape threats and group identity. *Journal of Pragmatics 91*, 80–93. https://doi.org/10.1016/j.pragma.2015.11.005

Hart, Christopher. Multimodal discourse analysis. 2020. In Christopher Hart (ed.) *Researching Discourse: A Student Guide* (pp. 154–190). Routledge. https://doi.org/10.4324/9780367815042

Hassan, Hanita. 2012. *Multimodal Communication of Corporate Website Design*. UTM Press.

Haugh, Michael, Kádár, Dániel Z. and Terkourafi, Marina. (eds.). 2021. *The Cambridge Handbook of Sociopragmatics*. Cambridge University Press. https://doi.org/10.1017/9781108954105

Hendges, Graciela Rabuske and Florek, Cristiane Salete. 2019. The graphical abstract as a new genre in the promotion of science. In María José Luzón and Carmen Pérez-Llantada (eds.) *Science Communication on the Internet: Old Genres Meet New Genres* (pp. 59–80). John Benjamins. https://doi.org/10.1075/pbns.308.04hen

Hennig-Thurau, Thorsten, Gwinner, Kevin P., Walsh, Gianfranco and Gremler, Dwayne D. 2004. Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing 18* (1), 38–52. https://doi.org/10.1002/dir.10073

Herman, Eti and Nicholas, David. 2019. Scholarly reputation building in the digital age: An activity-specific approach. Review article. *El profesional de la información 28* (1), e280102. https://doi.org/10.3145/epi.2019.ene.02

Herrando-Rodrigo, Isabel. 2014. Genre evolution in research communication in English. *Revista Canaria de Estudios Ingleses 69*, 35–49.

Herring, Susan C. 1996. *Computer-Mediated Communication: Linguistic, Social, and Cross-Cultural Perspectives*. John Benjamins.

Herring, Susan C. 2002. Computer-mediated communication on the Internet. *Annual Review of Information Science and Technology 36*, 109–168.

Herring, Susan C. 2004. Computer-mediated discourse analysis: An approach to researching online behavior. In Sasha A. Barab, Rob Kling and James H. Gray (eds.) *Designing for Virtual Communities in the Service of Learning* (pp. 338–376). Cambridge University Press. https://doi.org/10.1017/CBO9780511805080.016

Herring, Susan C. 2007. A faceted classification scheme for computer-mediated discourse. *Language@Internet 4,* article 1. https://www.languageatinternet.org/articles/2007/761

Herring, Susan C. 2008. Virtual community. In Lisa M. Given (ed.) *Encyclopedia of Qualitative Research Methods (Volumes 1 & 2)* (pp. 920–921). SAGE.

Herring, Susan C. 2013. Discourse in Web 2.0: Familiar, reconfigured, and emergent. In Deborah Tannen and Anna Marie Tester (eds.) *Discourse 2.0: Language and New Media* (pp. 1–25). Georgetown University Press.

Herring, Susan C. 2016. New frontiers in interactive multimodal communication. In Alexandra Georgakopoulou and Tereza Spilioti (eds.) *The Routledge Handbook of Language and Digital Communication* (pp. 398–402). Routledge.

Herring, Susan C. 2019. The co-evolution of computer-mediated communication and computer-mediated discourse analysis. In Patricia Bou-Franch and Pilar Garcés-Conejos Blitvich (eds.) *Analyzing Digital Discourse: New Horizons and Future Directions* (pp. 25–67). Palgrave Macmillan.

Herring, Susan C., Stein, Dieter and Virtanen, Tuija. 2013. *Pragmatics of Computer-Mediated Communication*. De Gruyter Mouton. https://doi.org/10.1515/9783110214468

Heyd, Tereza and Puschmann, Cornelius. 2017. Hashtagging and functional shift: Adaptation and appropriation of the #. *Journal of Pragmatics 116*, 51–63. https://doi.org/10.1016/j.pragma.2016.12.004

Herman, Eti and Nicholas, David. 2019. Scholarly reputation building in the digital age: An activity-specific approach. Review article. *El profesional de la información* 28 (1), e280102. https://doi.org/10.3145/epi.2019.ene.02

Hiippala, Tuomo 2014. Multimodal genre analysis. In Sigrid Norris and Carmen Daniela Maier (eds.) *Interactions, Images and Texts: A Reader in Multimodality* (pp. 111–123). De Gruyter Mouton. https://doi.org/10.1515/9781614511175

Hiippala, Tuomo. 2015. *The Structure of Multimodal Documents: An Empirical Approach*. Routledge. https://doi.org/10.4324/9781315740454

Hiippala, Tuomo. 2017. An overview of research within the *Genre and Multimodality* framework. *Discourse, Context & Media 20*, 276–284. https://doi.org/10.1016/j.dcm.2017.05.004

Hoffmann, Christian R. 2017. Log in: Introducing the pragmatics of social media. In Chistian R. Hoffmann and Wolfram Bublitz (eds.) *Pragmatics of Social Media* (pp. 1–28). De Gruyter Mouton. http://doi.org//10.1515/9783110431070-001

Honeycutt, Courtenay and Herring, Susan C. 2009. Beyond microblogging: Conversation and collaboration via Twitter. *Proceedings of the 42nd Hawaii International Conference on System Sciences* (pp. 1–10). IEEE Press.

Huang, Yan. 2007. *Pragmatics*. Oxford University Press.

Hull, Glynda A. and Nelson, Mark Evan. 2005. Locating the semiotic power of multimodality. *Written Communication 22* (2), 224–261. https://doi.org/10.1177/0741088304274170

Hunston, Susan. 2010. *Corpus Approaches to Evaluation: Phraseology and Evaluative Language.* Routledge. https://doi.org/10.4324/9780203841686

Hunston, Susan and Thompson, Geoff. (eds.) 2000. *Evaluation in Text: Authorial Stance and the Construction of Discourse*. Oxford University Press.

Huse, Morten. 2020. *Resolving the Crisis in Research by Changing the Game: An Ecosystem and a Sharing Philosophy*. Edward Elgar Publishing. https://doi.org/10.4337/9781789906646

Hutchby, Ian. 2001. Technologies, texts and affordances. *Sociology 35* (2), 441–456. https://doi.org/10.1177/S0038038501000219

Hyland, Ken. 2005. *Metadiscourse: Exploring Interaction in Writing.* Continuum.

Hyland, Ken. 2007. Applying a gloss: exemplifying and reformulating in academic discourse. *Applied Linguistics 28,* 266–285. https://doi.org/10.1093/applin/amm011

Hyland, Ken. 2009. *Academic Discourse: English in a Global Context*. Continuum.

Hyland, Ken. 2011. The presentation of self in scholarly life: Identity and marginalization in academic homepages. *English for Specific Purposes 30* (4), 286–297. https://doi.org/10.1016/j.esp.2011.04.004

Hyland, Ken. 2016. Academic publishing and the myth of linguistic injustice. *Journal of Second Language Writing 31,* 58–69. https://doi.org/10.1016/j.jslw.2016.01.005

Hyland, Ken. 2019. Genre and Discourse Analysis in Language for Specific Purposes. In Carol Chapelle (ed.) *The Concise Encyclopaedia of Applied Linguistics* (pp. 1–8). Wiley-Blackwell. https://doi.org/10.1002/9781405198431.wbeal0452.pub2

Hyland, Ken and Jiang, Feng (Kevin). 2021. 'Our striking results demonstrate…': Persuasion and the growth of academic hype. *Journal of Pragmatics 182*, 189–202. https://doi.org/10.1016/j.pragma.2021.06.018

Hyland, Ken and Tse, Polly. 2005. Hooking the reader: A corpus study of evaluative *that* in abstracts. *English for Specific Purposes 24* (2), 123–139. https://doi.org/10.1016/j.esp.2004.02.002

Hynninen, Niina. 2018. Impact of digital tools on the research writing process: A case study of collaborative writing in computer science. *Discourse, Context & Media 24*, 16–23. https://doi.org/10.1016/j.dcm.2018.01.005

Hyon, Sunny. 1996. Genres in three traditions: Implications for second language teaching. *TESOL Quarterly 30* (4), 693–722. https://doi.org/10.2307/3587930

Iedema, Rick. 2003. Multimodality, resemiotization: Extending the analysis of discourse as multi-semiotic practice. *Visual Communication 2* (1), 29–57. https://doi.org/10.1177/1470357203002001751

Ihlstrom, Carina and Lundberg, Jonas. 2003. The online news genre through the user perspective. *Proceedings of the 36th Annual Hawaii International Conference on System Sciences.* (pp.1–10). https://doi.org/10.1109/HICSS.2003.1174241

Ivankova, Nataliya V. and Greer, Jennifer L. 2018. Mixed methods research and analysis. In Brian Paltridge and Aek Phakti (eds.) *Research Methods in Applied Linguistics. A Practical Resource* (pp. 63–82). Bloomsbury.

Jääskeläinen, Ritta. 2005. *Translation Studies: What are They?* http://www.hum.expertise.workshop [Last accessed 05/02/2018].

Jenkins, Henry. 2006. *Convergence Culture: Where Old and New Media Collide*. New York University Press.

Jenkins, Jennifer. 2007. *English as a Lingua Franca: Attitude and Identity*. Oxford University Press.

Jewitt, Carey. 2014. Multimodal approaches. In Sigrid Norris and Carmen Daniela Maier (eds.) *Interactions, Images and Texts: A Reader in Multimodality* (pp. 127–136). De Gruyter Mouton. https://doi.org/10.1515/9781614511175.127

Jewitt, Carey, Adami, Elizabetta, Archer, Arlene, Björkvall, Anders and Lim, Fei Victor. 2021. Editorial. *Multimodality & Society 1* (1), 3–7. https://doi.org/10.1177/2634979521992902

Johnson, Allan G. 2000. *The Blackwell Dictionary of Sociology*. Wiley-Blackwell.

Johnson R. Burke, Onwuegbuzie Anthony J. and Turner Lisa A. 2007. Toward a definition of mixed methods research. *Journal of Mixed Methods Research 1* (2), 112–133. https://doi.org/10.1177/1558689806298224

Jones, Rodney H. 2019 [2012]. *Discourse Analysis: A Resource Book for Students* (2nd edition). Routledge.

Jones, Rodney H. and Hafner, Christoph A. 2012. *Understanding Digital Literacies: A Practical Introduction.* Routledge. https://doi.org/10.4324/9780203095317

Jones, Rodney H., Chik, Alice and Hafner, Christoph A. 2015. Introduction: Discourse and Digital Practices. In Rodney H. Jones, Alice Chik and Christoph A. Hafner (eds.) *Discourse and Digital Practices: Doing Discourse Analysis in the Digital Age* (pp. 1–17). Routledge. https://doi.org/10.4324/9781315726465

Jones, Steven G. (ed.). 1995. *CyberSociety: Computer-Mediated Communication and Community*. SAGE. https://doi.org/10.22230/cjc.1996v21n2a945

Jucker, Andreas H. (ed.). 1995. *Historical Pragmatics: Pragmatic Developments in the History of English*. John Benjamins.

Jucker, Andreas H. 2013. Corpus pragmatics. In Jan-Ola Östman and Jef Verschueren (eds.) *Handbook of Pragmatics* (pp. 2–17). John Benjamins.

Jucker, Andreas H. 2018a. Data in pragmatic research. In Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz (eds.) *Methods in Pragmatics* (pp. 3–36). De Gruyter Mouton. https://doi.org/10.1515/9783110424928-001

Jucker, Andreas H 2018b. Introduction to part 5: Corpus pragmatics. In Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz (eds.) *Methods in Pragmatics* (pp. 455–466). De Gruyter Mouton. https://doi.org/10.1515/9783110424928-018

Jucker, Andreas H. 2019. Internet pragmatics and the fuzziness of analytical categories: a response to Francisco Yus. *Internet Pragmatics 2* (1), 41–46. https://doi.org/10.1075/ip.00020.juc

Jucker, Andreas H. and Dürscheid, Christa. 2012. The linguistics of keyboard-to-screen communication: A new terminological framework. *Linguistik Online 56*, 39–64. https://doi.org/10.13092/lo.56.255

Jucker, Andreas H., Schneider, Klaus P. and Bublitz, Wolfram. (eds.). 2018. *Methods in Pragmatics*. De Gruyter Mouton. https://doi.org/10.1515/9783110424928

Jucker, Andreas H. and Taavitsainen, Irma. (eds.). 2010. *Historical Pragmatics*. De Gruyter Mouton. https://doi.org/10.1515/9783110214284

Jucker, Andreas H. and Taavitsainen, Irma. 2013. *English Historical Pragmatics*. Edinburgh University Press. https://doi.org/10.1515/9780748644704

Jurafsky, Daniel. 2004. Pragmatics and computational linguistics. In Lawrence R. Horn and Gregory Ward (eds.) *The Handbook of Pragmatics* (pp. 578–604). Blackwell.

Kalantzis, Mary and Cope, Bill. 2012. *Literacies*. Cambridge University Press. https://doi.org/10.1017/CBO9781139196581

Kasper, Gabriele. 2006. Speech acts in interaction: Towards discursive pragmatics. *Pragmatics and Language Learning 11*, 281–314.

Kastberg, Peter. 2010. Knowledge communication - Formative ideas and research impetus. *Programmatic Perspectives 2* (1), 59–71.

Kastberg, Peter. 2018. Knowledge communication. In Robert L. Heath and Winni Johansen (eds.) *The International Encyclopedia of Strategic Communication* (pp. 1–6). Wiley-Blackwell. https://doi.org/10.1002/9781119010722.iesc0096

Katz, Richard N. 2010. Scholars, scholarship and the digital age. *Educause Review 45*, 44–56.

Kaur, Jagdish. 2022. Pragmatic strategies in ELF communication: Key findings and a way forward. In Ian Walkinshaw (ed.) *Pragmatics in English as a Lingua Franca: Findings and Developments* (pp. 35–54). De Gruyter Mouton. https://doi.org/10.1515/9781501512520-003

Kecskes, Istvan. 2013. *Intercultural Pragmatics*. Oxford Academic. https://doi.org/10.1093/acprof:oso/9780199892655.001.0001

Kecskes, Istvan and Assimakopoulos, Stavros. (ed.). 2017. *Current Issues in Intercultural Pragmatics.* John Benjamins. https://doi.org/10.1075/pbns.274

Kecskes, Istvan and Romero-Trillo, Jesús. (eds.). 2013. *Research Trends in Intercultural Pragmatics*. De Gruyter Mouton. https://doi.org/10.1515/9781614513735

Kent, Michael L. and Taylor, Maureen. 1998. Building dialogic relationships through the World Wide Web. *Public Relations Review 24* (3), 321–334. https://doi.org/10.1016/S0363-8111(99)80143-X

Kessler, Sabrina Heike, Schäfer Mike S., Johann David and Rauhut Heiko. 2022. Mapping mental models of science communication: How academics in Germany, Austria and Switzerland understand and practice science communication. *Public Understanding of Science 31* (6), 711–731. https://doi.org/10.1177/09636625211065743

Kieslinger, Barbara. 2015. Academic peer pressure in social media: Experiences from the heavy, the targeted and the restricted user. *First Monday 20* (6), 1–15. https://doi.org/10.5210/fm.v20i6.5854

Kitade, Keiko. 2012. Pragmatics of asynchronous of computer-mediated communication. In Carol A. Chapelle *The Encyclopedia of Applied Linguistics* (pp. 4541–4546). Wiley-Blackwell. https://doi.org/10.1002/9781405198431.wbeal0939

Kjellberg, Sara and Haider, Jutta. 2018. Researchers' online visibility: Tensions of visibility, trust and reputation. *Online Information Review 43* (3), 426–439. https://doi.org/10.1108/OIR-07-2017-0211

Klobas, Jane. 2006. *Wikis: Tools for information Work and Collaboration*. Chandos. https://doi.org/10.1533/9781780631837

Knox, John S. 2007. Visual-verbal communication on online newspaper home pages. *Visual Communication 6* (1), 19–53. https://doi.org/10.1177/1470357207071464

Kress, Gunther. 2003. *Literacy in the New Media Age*. Routledge. https://doi.org/10.4324/9780203299234

Kress, Gunther. 2010. *Multimodality: A Social Semiotic Approach to Contemporary Communication*. Routledge.

Kress, Gunther and van Leeuwen, Theo. 1996. *Reading Images: The Grammar of Visual Design.* Routledge.

Kress, Gunther and van Leeuwen, Theo. 2001. *Multimodal Discourse. The Modes and Media of Contemporary Communication*. Arnold.

Kress, Gunther and van Leeuwen, Theo. 2002. Colour as a semiotic mode: notes for a grammar of colour. *Visual Communication 1* (3), 343–368. https://doi.org/10.1177/147035720200100306

Krings, Hans Peter. 1986. Translation problems and translation strategies of advanced German learners of French. In Juliane House and Shoshana Blum-Kulka (eds.) *Interlingual and Intercultural Communication* (pp. 263–275). Gunter Narr.

Krippendorff, Klaus. 2004. *Content Analysis: An Introduction to its Methodology* (2nd ed.). SAGE.

Kuteeva, Maria. 2016. Research blogs, wikis and tweets. In Ken Hyland and Philipp Shaw (eds.) *The Routledge Handbook of English for Academic Purposes* (pp. 433–445). Routledge.

Kuteeva, Maria and Mauranen, Anna. 2018. Digital academic discourse: Texts and contexts: Introduction. *Discourse, Context & Media 24*, 1–7. https://doi.org/10.1016/j.dcm.2018.06.001

Kyvik, Svein. 2005. Popular science publishing and contributions to public discourse among University Faculty. *Science Communication 26* (3), 288–311. https://doi.org/10.1177/2F1075547004273022

Lafuente-Millán, Enrique. 2008. Epistemic and approximative meaning revisited: The use of hedges, boosters and approximators when writing research in different disciplines. In Sally Burgess and Pedro Martín-Martín (eds.) *English as an Additional Language in Research Publication and Communication* (pp. 65–82). Peter Lang.

Lafuente-Millán, Enrique. 2023. Evaluation and genre evolution in H2020 European research project websites: A multiple perspective of analysis. In Josef Schmied, Marina Bondi, Olga Dontcheva-Navratilova and Carmen Pérez-Llantada (eds.) *Patterns of Language Variation and Change in Academic Writing: A Corpus-Based Diachronic Perspective*. Special Issue of *Token: A Journal of English Linguistics*, in press.

Landert, Daniela. 2017. Participation as user involvement. In Christian R. Hoffman and Wolfram Bublitz (eds.) *Pragmatics of Social Media* (pp. 31–60). De Gruyter Mouton. https://doi.org/10.1515/9783110431070-002

Ledin, Per and Machin, David. 2018. Doing critical discourse studies with multimodality: From metafunctions to materiality. *Critical Discourse Studies 16* (5), 497–513. https://doi.org/10.1080/17405904.2018.1468789

Lee, Carmen. 2015. Digital discourse@public space: Flows of language online and offline. In Rodney H. Jones, Alice Chik and Christoph A. Hafner (eds.) *Discourse and Digital Practices: Doing Discourse Analysis in the Digital Age* (pp. 175–192). Routledge.

Lee, Carmen. 2016. *Multilingualism Online*. Routledge. https://doi.org/10.4324/9781315707211

Lee, Mi Kyung, Yoon, Ho Young, Smith, Marc, Park, Hye Jin and Park, Han Woo. 2017. Mapping a Twitter scholarly communication network: A case of the association of internet researchers' conference. *Scientometrics 112* (2), 767–797. https://doi.org/10.1007/s11192-017-2413-z

Leech, Geoffrey. 1983. *Principles of Pragmatics*. Longman.

Lemke, Jay L. 2002. Travels in hypermodality. *Visual Communication 1* (3), 299–325. https://doi.org/10.1177/147035720200100303

Leppänen, Sirpa and Peuronen, Saija. 2012. Multilingualism on the Internet. In Marilyn Martin-Jones, Adrian Blackledge and Angela Creese (eds.) *The Routledge Handbook of Multilingualism* (pp. 384–402). Routledge.

Letierce, Julie, Passant, Alexandre, Breslin, John G. and Decker, Stephan. 2010. Understanding how Twitter is used to spread scientific messages. *Proceedings of the WebSci10: Extending the Frontiers of Society On-Line* (pp. 1–8). Raleigh.

Lillis, Theresa. 2008. Ethnography as method, methodology, and 'deep theorizing': Closing the gap between text and context in academic writing research. *Written Communication 25* (3), 353–388. https://doi.org/10.1177/0741088308319229

Lillis, Theresa and Curry, Mary Jane. 2010. *Academic Writing in a Global Context: The Politics and Practices of Publishing in English.* Routledge.

Linvill, Darren L., McGee, Sara E. and Hicks, Laura K. 2012. Colleges' and universities' use of Twitter: A content analysis. *Public Relations Review 38* (4), 636–638. https://doi.org/10.1016/j.pubrev.2012.05.010

Litt, Eden. 2012. Knock, knock. Who's there? The imagined audience. *Journal of Broadcasting & Electronic Media 56* (3), 330–345. https://doi.org/10.1080/08838151.2012.705195

Liu, Jianxin. 2019. Research video abstracts in the making: A revised move analysis. *Journal of Technical Writing and Communication 50* (4), 423–446. https://doi.org/10.1177/0047281619894981

Liu, Jing and Deng, Liming. 2016. A genre analysis of web-based crowdfunding discourse. *The Asian ESP Journal 12* (2), 171–202.

Lombard, Matthew, Snyder-Duch, Jennifer and Bracken Cheryl Campanella. 2002. Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communications Research 28* (4), 587–604.

Lomborg, Stine. 2011. Social media as communicative genres. *MedieKultur 27* (51), 55–71. https://doi.org/10.7146/mediekultur.v27i51.4012

Lomborg, Stine. and Bechmann, Anja. 2015. Introduction: The ubiquitous Internet: Introduction and conceptualization. In Anja Bechmann and Stine Lomborg (eds.) *The Ubiquitous Internet: User and Industry Perspectives* (pp. 1–5). New York: Routledge. https://doi.org/10.4324/9781315856667

Lorés, Rosa. 2018. Online conference announcements as spaces for disciplinary communication. *English Text Construction 11* (2), 257–285. https://doi.org/10.1075/etc.00011.lor

Lorés, Rosa. 2020. Science on the web: The exploration of European research websites of energy-related projects as digital genres for the promotion of values. *Discourse, Context & Media 35*, 100389. https://doi.org/10.1016/j.dcm.2020.100389

Lorés, Rosa. 2023. Dual voices, hybrid identities: The recontextualization of research in digital dissemination scientific discourse. *Círculo de Lingüística Aplicada a la Comunicación 93*, in press.

Lorés, Rosa and Diani, Giuliana. (eds.) 2021. Disseminating knowledge: Digital discourse in academic and institutional contexts. Special Issue of *European Journal of English Studies 25* (3). https://doi.org/10.1080/13825577.2021.1988262

Lorés, Rosa and Herrando-Rodrigo, Isabel. 2020. New concepts, different approaches: Tackling e-visibility in research project websites. *Revista de Lingüística y Lenguas Aplicadas 15*, 83–98. https://doi.org/10.4995/rlyla.2020.12782

Lörscher, Wolfgang. 1991. *Translation Performance, Translation Process and Translation Strategies*. Guten Narr.

Lupton, Deborah, Mewburn, Inger and Thomson, Pat. (eds.). 2018. *The Digital Academic: Critical Perspectives on Digital Technologies in Higher Education.* Routledge.

Luzón, María José. 2013. Public communication of science in blogs: Recontextualizing scientific discourse for a diversified audience. *Written Communication 30* (4), 428–457. https://doi.org/10.1177/0741088313493610

Luzón, María José. 2018. Constructing academic identities online: Identity performance in research group blogs written by multilingual scholars. *Journal of English for Academic Purposes 33,* 24–39. https://doi.org/10.1016/j.jeap.2018.01.004

Luzón, María José. 2019. "Meet our group!": Addressing multiple audiences on the websites of Spanish research groups. *International Journal of English Studies 19* (2), 37–59. https://doi.org/10.6018/ijes.382561

Luzón, María José and Albero-Posac, Sofía. 2020. 'Had a lovely week at #conference2018': An analysis of interaction through conference tweets. *RELC Journal 51* (1), 33–51. https://doi.org/10.1177/0033688219896862

Luzón, María José and Pérez-Llantada, Carmen. (eds.). 2019. *Science Communication on the Internet: Old Genres Meet New Genres*. John Benjamins. https://doi.org/10.1075/pbns.308

Mahrt, Merja, Weller, Katrin, and Peters, Isabella. 2014. Twitter in scholarly communication. In Katrin Weller, Axel Bruns, Jean Burgess, Merja Mahrt and Cornelius Puschmann (eds.) *Twitter and Society* (pp. 399–410). Peter Lang. https://doi.org/10.3726/978-1-4539-1170-9

Maier, Carmen Daniela and Engberg, Jan. 2013. Tendencies in the multimodal evolution of narrator's types and roles in research genres. In Maurizio Gotti and Carmen Sancho (eds.) *Narratives in Academic and Professional Genres* (pp. 149–173). Peter Lang.

Mair, Christian. 2002. The continuing spread of English: Anglo-American conspiracy or global grassroots movement? In David John Allerton, Paul Skandera and Cornelia Tschichold (eds.) *Perspectives on English as a World Language* (pp. 159–169). Schwabe.

Maly, Ico. 2022. Algorithms, interaction and power: A research agenda for digital discourse analysis. *Working Papers in Urban Language & Literacies*, WP295.

Mandiberg, Michael. 2012. Introduction. In Michael Mandiberg (ed.) *The Social Media Reader* (pp. 1–12). New York University Press. https://doi.org/10.18574/nyu/9780814763025.003.0004

Mäntynen, Anne and Shore, Susanna. 2014. What is meant by hybridity? An investigation of hybridity and related terms in genre studies. *Text & Talk 34* (6), 737–758. https://doi.org/10.1515/text-2014-0022

Marmaridou, Sophia. 2011. Pragmalinguistics and sociopragmatics. In Wolfram Bublitz and Neal R. Norrick (eds.) *Foundations of Pragmatics* (pp. 77-106). De Gruyter Mouton. https://doi.org/10.1515/9783110214260.77

Márquez Reiter, Rosina and Placencia, María Elena. 2005. Research methods in sociopragmatics. In Rosina Márquez Reiter and María Elena Placencia (eds.) S*panish Pragmatics* (pp. 213-230). Palgrave Macmillan.

Martin, Jim R. 1985. *Factual Writing: Exploring and Challenging Social Reality*. Deakin University Press.

Martin, Jim R. 1992. *English Text: System and Structure*. John Benjamins. https://doi.org/10.1075/z.59

Martin, Jim R. 2000. Beyond exchange: Appraisal systems in English. In Susan Hunston and Geoff Thompson (eds.) *Evaluation in Text: Authorial Stance and the Construction of Discourse* (pp. 142–175). Oxford University Press.

Martin, Jim R. and Rose, David. 2008. *Genre Relations: Mapping Culture*. Equinox.

Martin, Jim R. and White, Peter R. R. 2005. *The Language of Evaluation: Appraisal in English*. Palgrave Macmillan.

Martinec, Radan and Salway, Andrew. 2005. A system for image-text relations in new (and old) media. *Visual Communication 4* (3), 339–374. https://doi.org/10.1177/1470357205055928

Marwick, Alice E. 2007. Microcelebrity, self-branding, and the Internet. In George Ritzer (ed.) *The Blackwell Encyclopedia of Sociology* (pp. 1–3). Wiley. https://doi.org/10.1002/9781405165518.wbeos1000

Marwick, Alice E. and boyd, danah. 2011. I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience, *New Media & Society 13* (2), 114–133. https://doi.org/10.1177/1461444810365313

Matsuda, Aya. (ed.). 2012. *Principles and Practices of Teaching English as an International Language*. Multilingual Matters. https://doi.org/10.21832/9781847697042

Mauranen, Anna. 2012. *Exploring ELF: Academic English Shaped by Non-Native Speakers*. Cambridge University Press.

Mauranen, Anna. 2013. Hybridism, edutainment, and doubt: Science blogging finding its feet. *Nordic Journal of English Studies 12* (1), 7–36. http://doi.org/10.35360/njes.274

Mauranen, Anna, Hynininen, Niina and Ranta, Elina. 2010. English as an academic lingua franca: The ELFA project. *English for Specific Purposes 29* (3), 183–190. https://doi.org/10.1016/j.esp.2009.10.001

Mauranen, Anna, Hynininen, Niina and Ranta, Elina. 2016. English as the academic lingua franca. In Ken Hyland and Philip Shaw (eds.) *The Routledge Handbook of English for Academic Purposes* (pp. 44–55). Routledge.

Maybin, Janet and Tusting, Karin. 2011. Linguistic ethnography. In James Simpson (ed.) *The Routledge Handbook of Applied Linguistics* (Vol. 10) (pp. 229–241). Routledge.

Mazarakis, Athanasios and Peters, Isabella. 2015. Science 2.0 and conference tweets: What? where? why? when? *Electronic Journal of Knowledge Management 13* (4), 269–282.

McEnery, Tony and Hardie, Andrew. 2012. *Corpus Linguistics: Method, Theory and Practice*. Cambridge University Press. https://doi.org/10.1017/CBO9780511981395

McEnery, Tony and Wilson, Andrew. 2001. *Corpus Linguistics: An Introduction*. Edinburgh University Press.

McKay, Sandra Lee and Brown, James Dean. 2016. *Teaching and Assessing EIL in Local Contexts Around the World*. Routledge.

Mehlenbacher, Ashley R. 2019. *Science Communication Online: Engaging Experts and Publics on the Internet*. The Ohio State University Press. https://doi.org/10.26818/9780814213988

Merchant. Guy. 2006. Identity, social networks and online communication. *E-Learning 3* (2), 235–244. https://doi.org/10.2304/elea.2006.3.2.235

Mey, Jacob L. 1993. *Pragmatics: An Introduction*. Blackwell.

Mey, Jacob L. 2017. Corpus linguistics: Some (meta-)pragmatic reflections. *Corpus Pragmatics 1*, 185–199. https://doi.org/10.1007/s41701-017-0017-8

Mey, Jacob L. 2018. How social is the Internet? A pragmatic view. *Internet Pragmatics 1,* 13–28. https://doi.org/10.1075/ip.00002.mey

Meyer, Charles F. 2002. *English Corpus Linguistics*. Cambridge University Press. https://doi.org/10.1017/CBO9780511606311

Meyrowitz, Joshua. 1986. *No Sense of Place: The Impact of Electronic Media on Social Behavior*. Oxford University Press.

Millar, Neil, Salager-Meyer, Françoise and Budgell, Brian. 2019. "It is important to reinforce the importance of…": 'Hype' in reports of randomized controlled trials. *English for Specific Purposes 54*, 139–151. https://doi.org/10.1016/j.esp.2019.02.004

Miller, Carolyn R. 1984. Genre as social action. *Quarterly Journal of Speech 70* (2), 151–167. https://doi.org/10.1080/00335638409383686

Miller, Carolyn R. and Shepherd, Dawn. 2009. Questions for Genre Theory from the blogosphere. In Janet Giltrow and Dieter Stein (eds.) *Genres in the Internet: Issues in the Theory of Genre* (pp. 263–290). John Benjamins. https://doi.org/10.1075/pbns.188.11mil

Miller, Danny and Slater, Don. 2000. *The Internet: An Ethnographic Approach*. Berg.

Moosa, Imad A. 2018. *Publish or Perish: Perceived Benefits versus Unintended Consequences*. Edward Elgar Publishing.

Mudambi, Susan M. and Schuff, David. 2010. What makes a helpful review? A study of customer reviews on Amazon.com. *MIS Quarterly 34* (1), 185–200. https://doi.org/10.2307/20721420

Murchison, Julian. 2010. *Ethnography Essentials: Designing, Conducting, and Presenting your Research.* Wiley.

Mur-Dueñas, Pilar. 2012. Getting research published internationally in English: An ethnographic account of a team of Finance Spanish scholars' struggles. *Ibérica 24*, 139–156. https://revistaiberica.org/index.php/iberica/article/view/299

Mur-Dueñas, Pilar. 2018. Disseminating and constructing academic knowledge in online scholarly journals: An analysis of virtual special issue introductions. *Discourse, Context & Media 24*, 43-52. https://doi.org/10.1016/j.dcm.2018.04.010

Mur-Dueñas, Pilar. 2019. The experience of a NNES outer circle novice scholar in scholarly publication. In Pejman Habibie and Ken Hyland (eds.) *Novice Writers and Scholarly Publication: Authors, Mentors, Gatekeepers* (pp. 97–116). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-95333-5_6

Mur-Dueñas, Pilar. 2021. Engagement markers in research project websites: Promoting interactivity and dialogicity. *Poznan Studies in Contemporary Linguistics 57* (4), 655–676. https://doi.org/10.1515/psicl-2021-0023

Mur-Dueñas, Pilar. 2023. Exploring researchers' professional digital discursive practices: A genre analysis of European research project websites. *Ibérica 45.*

Mur-Dueñas, Pilar and Lorés, Rosa. (eds.) 2021. *Scientific and Parascientific Communication*. MDPI. https://doi.org/10.3390/books978-3-0365-3822-8

Mur-Dueñas, Pilar and Lorés, Rosa. 2021. Editorial. When science communication becomes parascience: Blurred boundaries, diffuse roles. In Pilar Mur-Dueñas and Rosa Lorés (eds.) *Scientific and Parascientific Communication*. Special Issue of *Publications 10* (2), 14. https://doi.org/10.3390/publications10020014

Mur-Dueñas, Pilar and Pascual, Daniel. 2023. Metadiscoursal realisation of pragmatic strategies @Research Project Twitter accounts. *Atlantis: Journal of the Spanish Association of English Studies*.

Mur-Dueñas, Pilar and Šinkūnienė, Jolanta. 2018. Introduction. In Pilar Mur-Dueñas and Jolanta Šinkūnienė (eds) *Intercultural Perspectives on Research Writing* (pp. 2–12). John Benjamins. https://doi.org/10.1075/aals.18

Murillo, Silvia. 2012. The use of reformulation markers in Business Management research articles: An intercultural analysis. *International Journal of Corpus Linguistics 17* (1), 69-90. https://doi.org/10.1075/ijcl.17.1.03mur

Murillo, Silvia. 2021. An exploration of the treatment of terminology in international project websites. Conference presentation at *LSPPC6 – 6th International Conference of the Asia-Pacific LSP & Professional Communication Association*. City University of Hong Kong, 3-5 June 2021.

Murillo, Silvia. 2022. New media, new discourse functions: Reformulation processes in international H2020 project websites and Twitter accounts. Conference presentation at *CMC and Social Media Corpora Conference*. Universidad de Santiago (Spain), 28-29 September 2022.

Myers, Greg. 2003. Discourse studies of scientific popularization: Questioning the boundaries. *Discourse Studies 5* (2), 265–279. https://doi.org/10.1177/1461445603005002006

Myers, Greg. 2010. *Discourse of Blogs and Wikis*. Continuum.

Myers, Greg. 2013. *Working and playing on science Twitter.* http://www.lancaster.ac.uk/fass/events/twitter_and_microblogging/video/GregMyers.htm. [Last accessed 05/02/2020].

Nicholls, Gill. 2005. *The Challenge to Scholarship: Rethinking Learning, Teaching and Research.* Routledge.

Ninio, Anat. 1986. The illocutionary aspect of utterances. *Dialogue Processes 9* (2), 127–147. https://doi.org/10.1080/01638538609544636

Norman, Don. 1988. *The Design of Everyday Things*. Basic Books.

Norris, Sigrid. 2004a. Multimodal discourse analysis: A conceptual framework. In Philipp LeVine and Ron Scollon (eds.) *Discourse and Technology: Multimodal Discourse Analysis* (pp. 101–115). Georgetown University Press.

Norris, Sigrid. 2004b. *Analyzing Multimodal Interaction: A Methodological Framework.* Routledge.

Norris, Sigrid and Maier, Carmen Daniela. 2014. Introduction. In Sigrid Norris and Carmen Daniela Maier (eds.) *Interactions, Images and Texts: A Reader in Multimodality* (pp. 1–3). De Gruyter Mouton. https://doi.org/10.1515/9781614511175

Nunberg, Geoffrey. 2001. Will the Internet always speak English? *The American Prospect Online 11* (10). https://prospect.org/features/will-internet-always-speak-english/ [Last accessed 23/08/2021]

Nwogu, Kevin N. 1991. Structure of science popularizations: A genre-analysis approach to the schema of popularized medical texts. *English for Specific Purposes 10* (2), 111–123. https://doi.org/10.1016/0889-4906(91)90004-G

Oblak, Tanja. 2005. The lack of interactivity and hypertextuality in online media. *Internet Communication Gazette 67* (1), 87–106. https://doi.org/10.1177/0016549205049180

O'Halloran, Kay L. (ed.). 2004. *Multimodality Discourse Analysis: Systemic Functional Perspectives*. Continuum.

O'Halloran, Kay L. 2011. Multimodal Discourse Analysis. In Ken Hyland and Brian Paltridge (eds.) *Companion to Discourse Analysis* (pp. 120-137). Continuum.

O'Halloran, Kay L. and Smith, B. A. (eds.). 2011. *Multimodal Studies: Exploring Issues and Domain.* Routledge.

O'Halloran, Kay L., Tan, Sabine and E, Marissa K. L. 2014. Multimodal pragmatics. In Klaus P. Schneider and Anne Barron (eds.) *Pragmatics of Discourse* (pp. 239–268). De Gruyter Mouton. https://doi.org/10.1515/9783110214406-010

O'Keeffe, Anne and McCarthy, Michael. (eds.). 2010. *The Routledge Handbook of Corpus Linguistics*. Routledge. https://doi.org/10.4324/9780203856949

O'Reilly, Michelle and Parker, Nicola. 2012. 'Unsatisfactory saturation': A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research 13* (2), 1–8. https://doi.org/10.1177/1468794112446106

O'Reilly, Tim. 2010. What is Web 2.0? Design patterns and business models for the next generation of software. In Helen Donelan, Karen Kear and Magnus Ramage (eds.) *Online Communication and Collaboration. A Reader* (pp. 225–236). Routledge.

Orlikowski, Wanda J. and Yates, JoAnne. 1994. Genre repertoire: The structuring of communicative practices in organizations. *Administrative Science Quarterly 39* (4), 541–574. https://doi.org/10.2307/2393771

Östman, Jan-Ola and Virtanen, Tuija. 2011. Text and discourse linguistics. In Jan Zienkowski, Jan-Ola Östman, and Jef Verschueren (eds.) *Discursive Pragmatics* (pp. 266–285). John Benjamins. https://doi.org/10.1075/hoph.8.15ost

Page, Ruth. 2012. The linguistics of self-branding and micro-celebrity in Twitter: The role of hashtags. *Discourse & Communication 6* (2), 181–201. https://doi.org/10.1177/1750481312437441

Page, Ruth. 2016. Moving between the big and the small. Identity and interaction in digital contexts. In Alexandra Georgakopoulou and Tereza Spilioti (eds.) *The Routledge Handbook of Language and Digital Communication* (pp. 403–407). Routledge.

Page, Ruth, Barton, David, Unger, Johann W. and Zappavigna, Michele. 2014. *Researching Language and Social Media. A Student Guide*. Routledge. https://doi.org/10.4324/9781315771786

Paltridge, Brian, Starfield, Sue and Tardy, Christine M. 2016. *Ethnographic Perspectives on Academic Writing*. Oxford University Press.

Panther, Klaus-Uwe. 2022. *Introduction to Cognitive Pragmatics*. John Benjamins. https://doi.org/10.1075/clip.4

Papacharissi, Zizi. (ed.). 2011. *A Networked Self: Identity, Community and Culture on Social Network Sites*. Routledge.

Pascual, Daniel. 2018. Analysing digital communication: Discursive features, rhetorical structure and the use of English as a lingua franca in travel blog posts. *Journal of English Studies 16*, 255–279. https://doi.org/10.18172/jes.3556

Pascual, Daniel. 2021. Speech acts in travel blogs: users' corpus-driven pragmatic intentions and discursive realisations. *ELIA: Estudios de Lingüística Inglesa Aplicada 21*, 85–123. https://doi.org/10.12795/elia.2021.i21.04

Pascual, Daniel. Forthcoming. Pragmatic macrocategories and microstrategies in research project homepages: Meaning-making verbal and visual devices. In Sanna-Kaisa Tanskanen, Lotta Lehti, Kristin Vold Lexander, Ulla Tuomarla, Mikko Virtanen and Chaoqun Xie (eds.) *Explorations in Internet Pragmatics: Identity, Intentionality and Interpersonal interaction*. Brill.

Pascual, Daniel and Mur-Dueñas, Pilar. 2022. Dialogic interaction with diversified audiences in Twitter for Research Dissemination Purposes. *Círculo de Lingüística Aplicada a la Comunicación 90,* 61–79. https://doi.org/10.5209/clac.81307

Pascual, Daniel, Mur-Dueñas, Pilar and Lorés, Rosa. 2020. Looking into international research groups' digital discursive practices: Criteria and methodological steps taken towards the compilation of the EUROPRO digital corpus. *Research in Corpus Linguistics 8* (2), 87–102. https://doi.org/10.32714/ricl.08.02.05

Paulsen, Michael B. and Feldman, Kenneth A. 1995. Toward a reconceptualization of scholarship: A human action system with functional imperatives. *The Journal of Higher Education 66* (6), 615–640. https://doi.org/10.1080/00221546.1995.11774808

Pauwels, Luc. 2012. A multimodal framework for analyzing websites as cultural expressions. *Journal of Computer-Mediated Communication 17* (3), 247–265. https://doi.org/10.1111/j.1083-6101.2012.01572.x

Pearce, Nick, Weller, Martin, Scanlon, Eileen, and Kinsley, Sam. 2010. Digital scholarship considered: how new technologies could transform academic work. *In Education 16* (1), 33–44. https://doi.org/10.37119/ojs2010.v16i1.44

Pérez-Llantada, Carmen. 2012. *Scientific Discourse and the Rhetoric of Globalization: The Impact of Culture and Language*. Bloomsbury.

Pérez-Llantada, Carmen. 2021. Grammar features and discourse style in digital genres: The case of science-focused crowdfunding projects. *Revista Signos. Estudios de Lingüística* 54 (105), 73–96. https://doi.org/10.4067/S0718-09342021000100073

Petroni, Sandra. 2011. *Language in the Multimodal Web Domain.* Aracne.

Petroni, Sandra. 2019. How social media shape identities and discourses in professional digital settings: Self-communication or self-branding? In Patricia Bou-Franch and Pilar Garcés-Conejos Blitvich (eds.) *Analyzing Digital Discourse: News Trends and Future Directions* (pp. 251–282). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-92663-6_9

Phillipson, Robert. 1992. *Linguistic Imperialism*. Oxford University Press.

Plastina, Anna Franca. 2017. Professional discourse in video abstracts: Re-articulating the meaning of written research article abstracts. In Giuliana Garzone, Paola Catenaccio, Kim Grego and Roxanne Doerr (eds.) *Specialized and Professional Discourse across Media and Genres* (pp. 57–73). Ledizioni.

Plo, Ramón and Corona, Isabel. (eds.). 2023. *Digital Scientific Communication: Identity and Visibility in Research Dissemination*. Palgrave Macmillan.

Prior, Matthew T. 2018. Interviews and focus groups. In Aek Phakiti, Peter De Costa, Luke Plonsky and Sue Starfield (eds.) *The Palgrave Handbook of Applied Linguistics Research Methodology* (pp. 225–248). Palgrave Macmillan. https://doi.org/10.1057/978-1-137-59900-1_11

Puschmann, Cornelius. 2014. (Micro)Blogging science? Notes on potentials and constraints of new forms of scholarly communication. In Sönke Bartling and Sascha Friesike (eds.) *Opening Science* (pp. 89–106). Springer. https://doi.org/10.1007/978-3-319-00026-8_6

Puschmann, Cornelius. 2015. A digital mob in the ivory tower? Context collapse in scholarly communication online. In Marina Bondi, Silvia Cacchiani and Davide Mazzi (eds.) *Discourse in and through the Media: Recontextualizing and Reconceptualizing Expert Discourse* (pp. 22–45). Cambridge Scholars Publishing.

Quan-Haase, Anabel and Sloan, Luke. 2017. Introduction to the Handbook of Social Media Research Methods: Goals, challenges and innovations. In Luke Sloan and Anabel Quan-Haase (eds.) *The SAGE Handbook of Social Media Research Methods* (pp. 1–11). SAGE. https://doi.org/10.4135/9781473983847.n1

Querol-Julián, Mercedes. 2021. How does digital context influence interaction in large live online lectures? The case of English-medium instruction. In Rosa Lorés and Giuliana Diani (eds.) *Disseminating Knowledge: Digital Discourse in Academic and Institutional Contexts*. Special Issue of *European Journal of English Studies 25* (3), 299–317. https://doi.org/10.1080/13825577.2021.1988265

Rampton, Ben, Tusting, Karin, Maybin, Janet, Barwell, Richard, Creese, Angela and Vally Lytra. 2004. UK linguistic ethnography: A discussion paper. https://www.lancaster.ac.uk/fss/organisations/lingethn/documents/discussion_paper_jan_05.pdf [Last accessed 15/06/2021]

Riazi, A. Mehdi. 2017. *Mixed Methods Research in Language Teaching and Learning*. Equinox.

Richards, Keith. 2009. Interviews. In Juanita Heigham and Robert A. Croker (eds.) *Qualitative Research in Applied Linguistics: A Practical Introduction* (pp. 182–199). Palgrave Macmillan. https://doi.org/10.1057/9780230239517_9

Rheingold, Howard. 2008. Using participatory media and public voice to encourage civic engagement. In W. Lance Bennett (ed.) *Civic Life Online: Learning How Digital Media Can Engage Youth* (pp. 97–118). MIT Press.

Römer, Ute. 2009. English in academia: Does nativeness matter? *Anglistik: International Journal of English Studies 20*, 89–100.

Romero-Trillo, Jesús. (ed.). 2008. *Pragmatics and Corpus Linguistics: A Mutualistic Entente*. De Gruyter Mouton. https://doi.org/10.1515/9783110199024

Ross, Claire, Terras, Melissa, Warwick, Claire and Welsh, Anne. 2011. Enabled backchannel: Conference Twitter use by digital humanists. *Journal of Documentation 67* (2), 214–237. https://doi.org/10.1108/00220411111109449

Roth, Wolff-Michael. 2005. Telling in purposeful activity and the emergence of scientific language. In Randy K. Yerrick and Wolff-Michael Roth (eds.) *Establishing Scientific Classroom Discourse Communities: Multiple Voices of Teaching and Learning Research* (pp. 45–72). Lawrence Erlbaum.

Roussen, Valentin, Gasser Theo and Seifert, Burkhardt. 2002. Assessing intrarater, interrater and test–retest reliability of continuous measurements. *Statistics in Medicine 21*, 3431–3446. https://doi.org/10.1002/sim.1253

Rühlemann, Christoph. 2011. Corpus-based pragmatics II: Quantitative studies. In Wolfram Bublitz and Neal R. Norrick (eds.) *Foundations of Pragmatics* (pp. 629–656). De Gruyter Mouton.

Rühlemann, Christoph and Clancy, Brian. 2018. Corpus linguistics and pragmatics. In Cornelia Ilie and Neal R. Norrick (eds.) *Pragmatics and its Interfaces* (pp. 241–266). John Benjamins. https://doi.org/10.1075/pbns.294.11ruh

Ruiz-Madrid, Noelia and Fortanet-Gómez, Inmaculada. 2017. An analysis of multimodal interaction in a webinar: Defining the genre. *EPiC Series in Language and Linguistics 2*, 274–282. https://doi.org/10.290007/p8mm

Ruiz-Madrid, Noelia and Valeiras-Jurado, Julia. 2023. Reconceptualization of genre(s) in scholarly and scientific digital practices: A look at multimodal online genres for the dissemination of science. In Ramón Plo and Isabel Corona (eds.) *Digital Scientific Communication: Identity and Visibility in Research Dissemination* (forthcoming). Palgrave Macmillan.

Sadock, Jerrold M. 1974. *Toward a Linguistic Theory of Speech Acts*. Academic Press.

Saldaña, Johnny. 2009. *The Coding Manual for Qualitative Researchers*. SAGE.

Sampietro, Agnese. 2016. Emoticonos y emojis: análisis de su historia, difusión y uso en la comunicación digital actual [PhD Thesis]. Universitat de València.

Sancho-Guinda, Carmen. (ed.) 2019. *Engagement in Professional Genres*. John Benjamins. https://doi.org/10.1075/pbns.301

Sancho-Guinda, Carmen. 2022. Scientific stylisation or the 'democracy dilemma' of graphical abstracts. In Pilar Mur-Dueñas and Rosa Lorés (eds.) *Scientific and Parascientific*

Communication. Special Issue of *Publications 10* (1), 11. https://doi.org/10.3390/publications10010011

Saunders, Benjamin, Sim, Julius, Kingstone, Tom, Baker, Shula, Waterfield, Jackie, Bartlam, Bernadette, Burroughs, Heather and Jinks, Clare. 2018. Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity: International Journal of Methodology 52*, 1893–1907. https://doi.org/10.1007/s11135-017-0574-8

Sbisà, Marina. 2009. Uptake and conventionality in illocution. *Lodz Papers in Pragmatics 5* (1), 33–52. https://doi.org/10.2478/v10016-009-0003-0

Schäfer, Mike S. and Metag, Julia. 2021. Audiences of science communication between pluralisation, fragmentation and polarisation. In Massimiano Bucchi and Brian Trench (eds.) *Routledge Handbook of Public Communication of Science and Technology* [3rd edition] (pp. 291–302). Routledge. https://doi.org/10.4324/9781003039242-16-15

Schensul, Jean and LeCompte, Margaret. 2013. *Essential Ethnographic Methods: A Mixed Methods Approach*. AltaMira.

Schmid, Hans-Jörg. (ed.). 2012. *Cognitive Pragmatics*. De Gruyter Mouton. https://doi.org/10.1515/9783110214215

Schmid-Petri, Hannah and Bürger, Moritz. 2020. Modeling science communication: From linear to more complex models. In Annette Leßmöllmann, Marcelo Dascal and Thomas Gloning (eds.) *Science Communication* (pp. 105–122). De Gruyter Mouton. https://doi.org/10.1515/9783110255522-005

Schmied, Josef. 2021. Popular digital knowledge dissemination platforms: Evaluating the pragmatic professional credibility from Wikipedia to Academia.edu and ResearchGate. *Journal of Pragmatics 180*, 187–202. https://doi.org/10.1016/j.pragma.2021.04.027

Schneider, Klaus P. and Barron, Anne. (eds.). 2014. *Pragmatics of Discourse*. De Gruyter Mouton. https://doi.org/10.1515/9783110214406

Scott, Kate. 2015. The pragmatics of hashtags: Inference and conversational style on Twitter. *Journal of Pragmatics 81*, 8–20. https://doi.org/10.1016/j.pragma.2015.03.015

Scott, Kate. 2022. *Pragmatics Online*. Routledge. https://doi.org/10.4324/b22750

Seargeant, Philip and Tagg, Caroline. (eds.). 2014. *The Language of Social Media: Identity and Community on the Internet*. Palgrave Macmillan. https://doi.org/10.1057/9781137029317

Searle, John R. 1969. *Speech Acts: An Essay in the Philosophy of Language.* Cambridge University Press.

Searle, John R. 1976. A classification of illocutionary acts. *Language in Society 5* (1), 1–23. https://doi.org/10.1017/S0047404500006837

Séguinot, Candace. 1989. *The Translation Process*. H.G. Publications.

Seidlhofer, Barbara. 2004. Research perspectives on teaching English as a Lingua Franca. *Annual Review of Applied Linguistics 24*, 209–239. https://doi.org/10.1017/S0267190504000145

Seidlhofer, Barbara. 2011. *Understanding English as a Lingua Franca*. Oxford: Oxford University Press. https://doi.org/10.1002/9781405198431.wbeal0243

Serafini, Frank. 2010. Reading multimodal texts: perceptual, structural and ideological perspectives. *Children's Literature in Education 41*, 85–104. https://doi.org/10.1007/s10583-010-9100-5

Sharifian, Farzad (ed.). 2009. *English as an International Language: Perspectives and Pedagogical Issues.* Clevedon: Multilingual Matters. https://doi.org/10.21832/9781847691231

Shaw, Oliver. 2016. English or Englishes in global academia: A text-historical take on genre analysis. *Publications 4* (1), 5. https://doi.org/10.3390/publications4010005

Shaw, Philip. 2006. Evaluative language in evaluative and promotional genres. In Gabriella Del Lungo Camiciotti, Marina Dossena and Belinda Crawford Camiciottoli (eds.) *Variation in Business and Economics Discourse: Diachronic and Genre Perspectives* (pp. 152–165). Officina Edizioni.

Shepherd, Michael and Watters, Carolyn R. 1998. The evolution of cybergenres. *Proceedings of the 31st Annual Hawaii International Conference on System Sciences (Volume II),* 97–109. https://doi.org/10.1109/HICSS.1998.651688

Shiffman, David S. 2012. Twitter as a tool for conservation education and outreach: What scientific conferences can do to promote live-tweeting. *Journal of Environmental Studies and Sciences 2* (3), 257–262. https://doi.org/10.1007/s13412-012-0080-1

Sifianou, Maria and Bella, Spiridoula. 2019. Twitter, politeness, self-presentation. In Patricia Bou-Franch and Pilar Garcés-Conejos Blitvich (eds.) *Analyzing Digital Discourse: New Insights and Future Directions* (pp. 341–365). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-92663-6_12

Sinclair, John. 1991. *Corpus, Concordance, Collocation*. Oxford University Press.

Sinclair, John. 2005a. Corpus and text: basic principles. In Martin Wynne (ed.) *Developing Linguistic Corpora: A Guide to Good Practice* (pp. 1–16). Oxbow Books. https://users.ox.ac.uk/~martinw/dlc/chapter1.htm [Last accessed 18/10/2021]

Sinclair, John. 2005b. Appendix: How to build a corpus. In Martin Wynne (ed.) *Developing Linguistic Corpora: A Guide to Good Practice* (n.p.). Oxbow Books. https://users.ox.ac.uk/~martinw/dlc/appendix.htm [Last accessed 21/10/2021]

Skovholt, Karianne, Grønning, Anette and Kankaanranta, Anne. 2014. The communicative functions of emoticons in workplace e-mails: :-). *Journal of Computer-Mediated Communication 19* (4), 780–797. https://doi.org/10.1111/jcc4.12063

Sloan, Luke and Quan-Haase, Anabel. (eds.). 2017. *The SAGE Handbook of Social Media Research Methods*. SAGE. https://doi.org/10.4135/9781473983847

Sperber, Dan and Wilson, Deirdre. 1986. *Relevance: Communication and Cognition.* Blackwell.

Spicer, Scott. 2014. Exploring video abstracts in science journals: An overview and case study. *Journal of Librarianship and Scholarly 2* (2), eP1110. https://doi.org/10.7710/2162-3309.1110

Spinuzzi, Clay. 2004. Describing assemblages: Genre sets, systems, repertoires, and ecologies. *Computer Writing and Research Lab*, 1–9. https://www.dwrl.utexas.edu/old/content/describing-assemblages.html [Last accessed 11/01/2020]

Spinuzzi, Clay and Zachry, Mark. 2000. Genre ecologies: An open-system approach to understanding and constructing documentation. *Journal of Computer Documentation 24* (3), 169–181. https://doi.org/10.1145/344599.344646

Squires, Lauren. 2016. Twitter: Design, discourse, and the implications of public text. In Alexandra Georgakopoulou and Tereza Spilioti (eds.) *The Routledge Handbook of Language and Digital Communication* (pp. 239–255). Routledge.

Stein Dieter. 2006. The web as a domain-specific genre. *Language@Internet 3*, article 6. https://www.languageatinternet.org/articles/2006/374

Stadler, Stefanie Alexa. 2011. Coding speech acts for their degree of explicitness. *Journal of Pragmatics 43* (1), 36–50. https://doi.org/10.1016/j.pragma.2010.08.014

Starfield, Sue. 2011. Doing critical ethnographic research into academic writing: The theory of methodology. In Diane Belcher, Ann M. Johns and Brian Paltridge (eds.) *New Directions in English for Specific Purposes Research* (pp. 174–196). University of Michigan Press.

Stöckl, Hartmut. 2005. Typgraphy: body and dress of a text – A signing mode between language and image. *Visual Communication 4* (2), 205–214. https://doi.org/10.1177/1470357205053403

Stöckl, Hartmut. 2014. Typography. In Sigrid Norris and Carmen Daniela Maier (eds.) *Interactions, Images and Texts: A Reader in Multimodality* (pp. 281–296). De Gruyter Mouton. https://doi.org/10.1515/9781614511175.281

Stromer-Galley, Jennifer. 2004. Interactivity-as-product and interactivity-as-process. *The Information Society 20* (5), 391–394. https://doi.org/10.1080/01972240490508081

Suau-Jiménez, Francisca. 2019. How hotel websites may discursively adjust to customer preferences using online criticism. *Ibérica 38*, 203–226

Sundstrom, Beth and Levenshus, Abbey Blake. 2017. The art of engagement: Dialogic strategies in Twitter. *Journal of Communication Management 21* (1), 17–33. https://doi.org/10.1108/JCOM-07-2015-0057

Swales, John. 1990. *Genre Analysis: English in Academic and Research Settings*. Cambridge University Press.

Swales, John. 2004. *Research Genres: Explorations and Applications*. Cambridge University Press. https://doi.org/10.1017/CBO9781139524827

Swales, John. 2019. The future of EAP genre studies: A personal viewpoint. *Journal of English for Academic Purposes 38*, 75–82. https://doi.org/10.1016/j.jeap.2019.01.003

Taavitsainen, Irma and Andreas H. Jucker. 2015. Twenty years of historical pragmatics: Origins, developments and changing thought styles. *Journal of Historical Pragmatics 16* (1), 1–25. https://doi.org/10.1075/jhp.16.1.01taa

Tagg, Caroline. 2012. *Discourse of Text Messaging: Analysis of SMS Communication.* Continuum.

Tannen, Deborah and Tester, Anna Marie. 2013. Introduction. In Deborah Tannen and Anna Marie Tester (eds.) *Discourse 2.0: Language and New Media* (pp. ix–xiii). Georgetown University Press.

Tardy, Christine M. 2023. How epidemiologists exploit the emerging genres of twitter for public engagement. *English for Specific Purposes 70*, 4–16. https://doi.org/10.1016/j.esp.2022.10.005

Teddlie Charles and Tashakkori Abbas. (eds.). 2009. *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. SAGE.

Tenca, Emanuela. 2018. Remediating corporate communication through the web: The case of About Us sections in companies' global websites. *ESP Today 6* (1), 84–106. https://doi.org/10.18485/esptoday.2018.6.1.5

Theodoropoulou, Irene. 2015. Politeness on Facebook: The case of Greek birthday wishes. *Pragmatics 25* (1), 23–45. https://doi.org/10.1075/prag.25.1.02the

Thetela, Puleng. 1997. Evaluated entities and parameters of value in academic research articles. *English for Specific Purposes 16* (2), 101–118. https://doi.org/10.1016/S0889-4906(96)00022-1

Thompson, Dominic and Filik, Ruth. 2016. Sarcasm in written communication: Emoticons are efficient markers of intention. *Journal of Computer-Mediated Communication 21* (2), 105–120. https://doi.org/10.1111/jcc4.12156

Thompson, Geoff and Alba-Juez, Laura. 2014. *Evaluation in Context*. John Benjamins. https://doi.org/10.1075/pbns.242

Thurlow, Crispin, Lengel, Laura and Tomic, Alice. 2004. *Computer Mediated Communication: Social Interaction and the Internet*. SAGE.

Thurlow, Crispin and Mroczek, Kristine. 2011. Introduction: Fresh perspectives on new media sociolinguistics. In Crispin Thurlow and Kristine Mroczek (eds.) *Digital Discourse: Language in the New Media* (pp. xix–xliv). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199795437.001.0001

Tognini-Bonelli, Elena. 2001. *Corpus Linguistics at Work.* John Benjamins. https://doi.org/10.1075/scl.6

Tomaskova, Renáta. 2015. A walk through the multimodal landscape of university websites. *Brno Studies in English 41* (1), 77–100. https://doi.org/10.5817/BSE2015-1-5

Trosborg, Anna. 2008. Rhetorical strategies in legal arbitration law. In Vijay K. Bhatia, Christopher N. Candlin and Jan Engberg (eds.) *Legal Discourse across Cultures and Systems* (pp. 199–220). University of Hong Kong Press. https://doi.org/10.5790/hongkong/9789622098510.003.0010

Tusting, Karin. (ed.). 2020. *The Routledge Handbook of Linguistic Ethnography.* Routledge. https://doi.org/10.4324/9781315675824

Unger, Johann W. Digitally mediated discourse analysis. In Christopher Hart (ed.) *Researching Discourse: A Student Guide* (pp. 180–200). Routledge. https://doi.org/10.4324/9780367815042-10

Vabø, Agnete, Alvsvåg, Aina, Kyvik, Svein and Reymert, Ingvild. 2016. The establishment of formal research groups in higher education institutions. *Nordic Journal of Studies in Educational Policy 2-3*, 33896. https://doi.org/10.3402/nstep.v2.33896

van den Hoonaard, Will C. 2008. Inter- and intracoder reliability. In Lisa M. Given (ed.) *The SAGE Encyclopedia of Qualitative Research Methods* (pp. 445–446). SAGE.

Vande Kopple, William J. 2002. Metadiscourse, discourse, and issues in composition and rhetoric. In Ellen L. Barton and Gail Stygall (eds.) *Discourse Studies in Composition* (pp. 91–113). Hampton Press.

Vandergriff, Ilona. 2013. Emotive communication online: A contextual analysis of computer-mediated communication (CMC) cues. *Journal of Pragmatics 51*, 1–12. https://doi.org/10.1016/j.pragma.2013.02.008

Varis, Piia. 2016. Digital ethnography. In Alexandra Georgakopoulou and Tereza Spilioti (eds.) *The Routledge Handbook of Language and Digital Communication* (pp. 55–68). Routledge.

Vásquez, Camilla. 2014. *The Discourse of Online Consumer Reviews.* Bloomsbury.

Vásquez, Camilla. 2015. Intertextuality and interdiscursivity in online consumer reviews. In Rodney H. Jones, Alice Chik and Christoph A. Hafner (eds.) *Discourse and Digital Practices: Doing Discourse Analysis in the Digital Age* (pp. 66–80). Routledge.

Vela Delfa, Cristina and Cantamutto, Lucía. 2021. *Los emojis en la interacción digital escrita*. Arco Libros.

Veletsianos, George. 2012. Higher education scholars' participation and practices on Twitter. *Journal of Computer Assisted Learning 28* (4), 336–349. https://doi.org/10.1111/j.1365-2729.2011.00449.x

Veletsianos, George. 2016. *Social Media in Academia: Networked Scholars*. Routledge. https://doi.org/10.4324/9781315742298

Vendler, Zeno. 1972. *Res Cogitans: An Essay in Rational Psychology.* Cornell University Press.

Venuti, Lawrence. 1998. Strategies of translation. In Mona Baker (ed.) *Encyclopedia of Translation Studies* (pp. 240–244). Routledge.

Verschueren, Jef. 1999. *Understanding Pragmatics.* Arnold.

Véronis, Jean and Guimier de Neef, Emilie. 2006. Le traitement des nouvelles formes de communication écrite. In Gérard Sabah (ed.) *Compréhension automatique des langues et interaction* (pp. 227–248). Hermès Science.

Vettorel, Paola. 2018. ELF and communication strategies: Are they taken into account in ELT materials? *RELC Journal 49* (1), 58–73. https://doi.org/10.1177/0033688217746204

Vettorel, Paola. 2019. Communication strategies and co-construction of meaning in ELF: Drawing on "Multilingual Resource Pools". *Journal of English as a Lingua Franca 8* (2), 179–210. https://doi.org/10.1515/jelf-2019-2019

Villanueva, Louise S., Dolom, Mary Aizel C. and Belen, Jennifer S. 2018. Genre analysis of the "About Us" sections of Asian Association of Open Universities websites. *Asian Association of Open Universities Journal 13* (1), 37–59. https://doi.org/10.1108/AAOUJ-01-2018-0002

Waldrop, Mitchel M. 2008. Science 2.0: Great tool, or great risk? *Scientific American 298* (5), 68–73. https://doi.org/10.1038/scientificamerican0508-68

Waller, Robert. 2012 Graphic literacies for a digital age: the survival of layout. *The Information Society 28* (4), 236–252. https://doi.org/10.1080/01972243.2012.689609

Walsh, Lynda and Gruber, David. (eds.). 2019. *Routledge Handbook of Language and Science*. Routledge.

Walther, Joseph B. 1996. Computer-mediated communication: Impersonal, interpersonal and hyperpersonal interaction. *Communication Research 23* (1), 3–43. https://doi.org/10.1177/009365096023001001

Weisser, Martin. 2020. Speech acts in corpus pragmatics: Making the case for an extended taxonomy. *International Journal of Corpus Linguistics 25* (4). https://doi.org/10.1075/ijcl.19023.wei

Weller, Katrin and Strohmahier, Markus. 2014. Editorial. Social media in academia: How the Social Web is changing academic practice. *it – Information Technology 56* (5), 203–206. https://doi.org/10.1515/itit-2014-9002

Weller, Katrin, Dröge, Evelyn and Puschmann, Cornelius. 2011. Citation analysis in twitter: approaches for defining and measuring information flows within tweets during scientific conferences. In Matthew Rowe, Milan Stankovic, Aba-Sah Dadzie and Mariann Hardey (eds.) *Proceedings of the ESWC2011 Workshop on 'Making Sense of Microposts': Big Things Come in Small Packages* (pp. 1–12). http://ceur-ws.org/Vol-718/paper_04.pdf [Last accessed 07/12/2021]

Weller, Martin. 2011. *The Digital Scholar: How Technology Is Transforming Scholarly Practice*. Bloomsbury.

Weller, Martin. 2018. The digital scholar revisited. *Philosopher's Lab 1* (2), 52–71. https://doi.org/10.5840/dspl20181218

Wen, Xidao, Lin, Yu-Ru, Trattner, Christoph and Parra, Denis. 2014. Twitter in academic conferences: Usage, networking and participation over time. In Leo Ferres and Gustavo Rossi (eds.) *HT' 14: Proceedings of the 25th ACM Conference on Hypertext and Social Media* (pp. 285–290). ACM. https://doi.org/10.1145/2631775.2631826

Wickman, Chad. 2016. Learning to "Share your science": The open notebook as textual object and dynamic rhetorical space. In Alan G. Gross and Jonathan Buehl (eds.) *Science and the Internet: Communicating Knowledge in a Digital Age* (pp. 11–22). Routledge.

Widdowson, Henry George. 2004. *Text, Context, Pretext: Critical Issues in Discourse Analysis.* Blackwell. https://doi.org/10.1002/9780470758427

Wilson, Deirdre and Sperber, Dan. 2002. Relevance theory. In Laurence R. Horn and Gregory Ward (eds.) *The Handbook of Pragmatics* (pp. 607–632). Blackwell.

Wilson, Deirdre. 2009. Relevance theory. In Louise Cummings (ed.) *The Pragmatics Encyclopedia* (pp. 393–399). Routledge.

Wuchty, Stefan, Jones, Benjamin F. and Uzzi, Brian. 2007. The increasing dominance of teams in production of knowledge. *Science 316* (5827), 1036–1039. https://doi.org/10.1126/science.1136099

Xia, Sichen Ada. 2020. Genre analysis in the digital era: Developments and challenges. *ESP Today 8* (1) 141–159. https://doi.org/10.18485/esptoday.2020.8.1.7

Xie, Chaoqun and Yus, Francisco. 2018. Introducing Internet Pragmatics. *Internet Pragmatics 1* (1), 1–12. https://doi.org/10.1075/ip.00001.xie

Xie, Chaoqun and Yus, Francisco. 2021. Digitally mediated communication. In Michael Haugh, Dániel Z. Kádár and Marina Terkourafi (eds.) *The Cambridge Handbook of Sociopragmatics* (pp. 454–474). Cambridge University Press. https://doi.org/10.1017/9781108954105.024

Xie, Chaoqun, Yus, Francisco and Haberland, Hartmut. (eds.). 2021. *Approaches to Internet Pragmatics: Theory and Practice*. John Benjamins. https://doi.org/10.1075/pbns.318

Yalanska, Marina. n.d. UX Design: Types of affordances in user interfaces. Design4Users. https://design4users.com/ux-design-types-of-affordances-in-user-interfaces/ [Last accessed 16/10/2022]

Yang, Wenhsien. 2016. Evaluative language and interactive discourse in journal article highlights. *English for Specific Purposes 42*, 89–103. https://doi.org/10.1016/j.esp.2016.01.001

Yang, Wenhsien. 2017. Audioslide presentations as an appendant genre – Key words, personal pronouns, stance and engagement. *ESP Today 5* (1), 24–45. https://doi.org/10.18485/esptoday.2017.5.1.2

Yates, JoAnne and Orlikowski, Wanda. 1992. Genres of organizational communication: A structurational approach to studying communication and media. *The Academy of Management Review 17* (2) 299–326.

Yates, JoAnne and Orlikowski, Wanda. 2002. Genre systems: Structuring interaction through communicative norms. *Journal of Business Communication 39* (1), 13–35. https://doi.org/10.1177/002194360203900102

Yu, Han and Northcut, Kathryn. (eds.). 2017. *Scientific Communication: Practices, Theories, and Pedagogies*. Routledge. https://doi.org/10.4324/9781315160191

Yus, Francisco. 2011. *Cyberpragmatics: Internet-Mediated Communication in Context*. John Benjamins. https://doi.org/10.1075/pbns.213

Yus, Francisco. 2015. Web-mediated communication. In Karen Tracy, Cornelia Ilie and Todd L. Sandel (eds.) *International Encyclopedia of Language and Social Interaction (Volume 3)* (pp. 1550–1555). Wiley-Blackwell.

Yus, Francisco. 2018. The interface between pragmatics and Internet-mediated communication: Applications, extensions and adjustments. In Cornelia Ilie and Neal R. Norrick (eds.) *Pragmatics and its Interfaces* (pp. 267–290). John Benjamins. https://doi.org/10.1075/pbns.294.12yus

Yus, Francisco. 2019. An outline of some future research issues for internet pragmatics. *Internet Pragmatics 2* (1), 1–33. https://doi.org/10.1075/ip.00018.yus

Yus, Francisco. 2021. *Smartphone Communication: Interactions in the App Ecosystem*. Routledge. https://doi.org/10.4324/9781003200574

Załęska, Maria and Okulska, Urszula. (eds.). 2016. *Rhetoric, Discourse and Knowledge*. Peter Lang. https://doi.org/10.3726/978-3-653-05993-9

Zappavigna, Michele. 2011. Ambient affiliation: A linguistic perspective on Twitter. *New Media & Society 13* (5), 788–806. https://doi.org/10.1177/1461444810385097

Zappavigna, Michele. 2012. *Discourse of Twitter and Social Media: How We Use Language to Create Affiliation on the Web*. Continuum.

Zappavigna, Michele. 2014. Enacting identity in microblogging through ambient affiliation. *Discourse & Communication 8* (2), 209–228. https://doi.org/10.1177/1750481313510816

Zhang, Yiqiong. 2019. Scifotainment: Evolving multimodal engagement in online science news. In Carmen Sancho-Guinda (ed.) *Engagement in Professional Genres* (pp. 243–258). John Benjamins. https://doi.org/10.1075/pbns.301.13zha

Zhang, Yiqiong and O'Halloran, Kay L. 2014. From popularization to marketization: The hypermodal nucleus in institutional science news. In Emilia Djonov and Sumin Zhao (eds.) *Critical Multimodal Studies of Popular Discourse* (pp. 160–177). Routledge.

Zienkowski, Jan, Östman, Jan-Ola and Verschueren, Jef. (eds.). 2011. *Discursive Pragmatics.* John Benjamins. https://doi.org/10.1075/hoph.8

Zollo, Sole A. 2016. Internationalization and globalization: A multimodal analysis of Italian Uni' websites. *Journal of Multimodal Communication Studies 1-2* (3), 1–17.

APPENDIX I: Number of pragmatic strategies coded and total occurrences per strategy in the EUROPROwebs Corpus

H2020 IRPs	*About* sections (29)		*Partners* sections (23)		*News & Events* sections (28)	
	No. pragmatic strategies	Occurrences	No. pragmatic strategies	Occurrences	No. pragmatic strategies	Occurrences
IRP01	11	46	13	213	25	118
IRP02	11	23	14	221	26	165
IRP03	16	31	9	86	26	157
IRP04	10	17			26	143
IRP05	12	24	13	75	25	146
IRP06	10	13			26	144
IRP07	10	20	14	103	26	129
IRP08	13	24	12	116	24	103
IRP09	15	33	8	55	23	166
IRP10	11	23	11	51	25	178
IRP11	12	23	14	203	23	137
IRP12	16	58	8	171	27	115
IRP13	12	34	14	161		
IRP14	15	44			27	161
IRP15	13	40	6	45	26	149
IRP16	12	45	13	123	24	151
IRP17	21	48			26	163
IRP18	12	48	15	123	25	111
IRP19						
IRP20	9	21			25	113
IRP21	15	28	9	95	23	108
IRP22	11	18			20	119
IRP23	18	33	8	94	24	92
IRP24	11	36	14	135	18	75
IRP25	16	38	11	67	26	138
IRP26	17	35	11	75	12	45
IRP27	14	29	12	109	26	199
IRP28	16	74	15	228	25	195
IRP29	12	38	14	232	24	126
IRP30	12	43	13	134	26	147

APPENDIX II: Distribution of pragmatic strategies in the research project web sections of the EUROPROwebs Corpus

Pragmatic strategies		*About* sections (29)		*Partners* sections (23)		*News & Events* sections (28)		Total (80)	
		Files	Ratio	Files	Ratio	Files	Ratio	Files	Ratio
INF01	Informing about the aim of the research	28	97%	17	74%	26	93%	71	**89%**
INF02	Stating general background of the project	22	76%	4	17%	24	86%	50	**63%**
INF03	Giving specific details about an event	3	10%	1	4%	27	96%	31	**39%**
INF04	Reporting on research procedure	22	76%	11	48%	24	86%	57	**71%**
INF05	Disclosing information about researchers	15	52%	23	100%	25	89%	63	**79%**
INF06	Presenting the content of outreach	3	10%	0	0%	28	100%	31	**39%**
INF07	Explaining audiovisual elements	10	34%	6	26%	18	64%	34	**43%**
INF08	Clarifying technical and scientific terms	22	76%	20	87%	28	100%	70	**88%**
INF09	Enumerating research- and topic-oriented elements	26	90%	22	96%	28	100%	76	**95%**
INF10	Acknowledging research funding	17	59%	10	43%	26	93%	53	**66%**
PRO01	Stating the benefits and impact of project research	27	93%	1	4%	24	86%	52	**65%**
PRO02	Underlining relevance and value through figures	21	72%	22	96%	28	100%	71	**89%**
PRO03	Hyping expected data and accomplishments	22	76%	8	35%	26	93%	56	**70%**
PRO04	Highlighting members' contribution to the project	11	38%	20	87%	26	93%	57	**71%**
PRO05	Spreading a piece of output	1	3%	0	0%	22	79%	23	**29%**
PRO06	Emphasising the quality and novelty of outreach	27	93%	15	65%	27	96%	69	**86%**
PRO07	Acknowledging external or self-praise	16	55%	20	87%	25	89%	61	**76%**
PRO08	Accounting for project productivity	9	31%	0	0%	28	100%	37	**46%**
PRO09	Claiming a project milestone	2	7%	0	0%	23	82%	25	**31%**
INT01	Guiding the audience to perform an action	16	55%	22	96%	28	100%	66	**83%**
INT02	Engaging the audience to participate in the project	5	17%	1	4%	24	86%	30	**38%**
INT03	Inviting the audience to consume research project output	8	28%	1	4%	27	96%	36	**45%**
INT04	Fostering networks	7	24%	10	43%	28	100%	45	**56%**
INT05	Praising and thanking others	2	7%	2	9%	25	89%	29	**36%**
INT06	Hooking the audience	8	28%	2	9%	21	75%	31	**39%**
INT07	Offering contacts for information	6	21%	11	48%	15	54%	32	**40%**
INT08	Making information visually salient	27	93%	22	96%	28	100%	77	**96%**

APPENDIX III: Number of pragmatic strategies coded and total occurrences per strategy in the EUROPROtweets Corpus

Horizon2020 IRPs	Twitter accounts (20)	
	No. pragmatic strategies	Occurrences
IRP01	20	235
IRP02	27	681
IRP03	27	4409
IRP04	23	371
IRP05	26	615
IRP06	21	141
IRP07	24	185
IRP08	25	702
IRP09	22	115
IRP10	24	220
IRP11	28	3479
IRP12	28	2028
IRP13	16	29
IRP14	28	997
IRP15	28	1951
IRP16	26	1958
IRP17	27	684
IRP18	27	351
IRP19	27	612
IRP20	27	563

APPENDIX IV: Distribution of pragmatic strategies in the research project Twitter accounts of the EUROPROtweets Corpus

Pragmatic strategies		Twitter accounts (20)	
		Files	Ratio
INF01	Informing about the aim of the research	19	95%
INF02	Stating general background of the project	18	90%
INF03	Giving specific details about an event	20	100%
INF04	Reporting on research procedure	14	70%
INF05	Disclosing information about researchers	19	95%
INF06	Presenting the content of outreach	20	100%
INF07	Explaining audiovisual elements	19	95%
INF08	Clarifying technical and scientific terms	16	80%
INF09	Enumerating research- and topic-oriented elements	18	90%
INF10	Acknowledging research funding	18	90%
PRO01	Stating the benefits and impact of project research	20	100%
PRO02	Underlining relevance and value through figures	18	90%
PRO03	Hyping expected data and accomplishments	17	85%
PRO04	Highlighting members' contribution to the project	20	100%
PRO05	Spreading a piece of output	20	100%
PRO06	Emphasising the quality and novelty of outreach	14	70%
PRO07	Acknowledging external or self-praise	18	90%
PRO08	Accounting for project productivity	20	100%
PRO09	Claiming a project milestone	18	90%
INT01	Guiding the audience to perform an action	19	95%
INT02	Engaging the audience to participate in the project	19	95%
INT03	Inviting the audience to consume research project output	20	100%
INT04	Fostering networks	19	95%
INT05	Praising and thanking others	19	95%
INT06	Hooking the audience	19	95%
INT07	Offering contacts for information	8	40%
INT08	Making information visually salient	19	95%

APPENDIX V: Protocol of semi-structured interviews with UZ researchers

A. Procesos de creación y escritura de los medios digitales

1. ¿Cómo surgió/se gestó la página web desde un principio? ¿Y la cuenta de Twitter?

2. ¿Cómo se ha diseñado el sitio web? ¿Qué decisiones habéis tomado para ello?

3. ¿Quién se encarga de redactar los textos de la página web? ¿Son revisados por un hablante nativo de inglés? ¿Se comparten entre los miembros del proyecto antes de publicarlos online?

4. ¿Cuándo se actualiza el contenido de la web? ¿Qué secciones son las que más se modifican?

5. ¿Quién maneja la cuenta de Twitter del proyecto? ¿Hay varios miembros del equipo que pueden escribir tweets?

6. ¿Cómo se usa la función de retuitear? ¿Qué tipo de contenido se retuitea?

B. Funciones, estructura y audiencia

7. ¿Cuál es la principal función de la página web y de las redes sociales para el proyecto de investigación al que perteneces?

8. ¿Qué secciones de tu página web son más relevantes? ¿Por qué?

9. ¿Qué hace efectivo a un sitio web de un proyecto de investigación europeo/internacional? ¿Y a una cuenta de Twitter?

10. ¿Quiénes crees que consulta la página web? ¿Y la cuenta de Twitter? ¿Sois en tu grupo de investigación usuarios de otras webs de proyectos europeos?

11. ¿Sirve la página web como plataforma para que los miembros del proyecto estén al tanto de las actividades y la productividad del mismo?

C. Aspectos discursivos y pragmáticos

12. ¿Qué estrategias dirías que usáis normalmente en los textos que publicáis?

13. ¿Intentáis comunicar la información técnica relativa a vuestra investigación? ¿De qué manera(s)?

14. ¿Por qué se incluyen imágenes o vídeos en determinadas ocasiones? ¿En qué secciones de la web crees que tiene más sentido?

D. Percepción del investigador

15. ¿Qué te gusta de la página web de tu proyecto de investigación? ¿Qué destacarías positivamente?

16. Del 1 al 7, siendo el 1 *Para nada* y el 7 *Totalmente*, ¿consideras que (i) la página web / (ii) Twitter sirve para…

- proporcionar información sobre la investigación?
- promocionar el proyecto en el que participas?
- acercar el proyecto a la sociedad e interactuar con usuarios?

17. Considera del 1 al 5, por un lado, el tiempo que inviertes en la comunicación digital de tu proyecto y, por otro, la recompensa que esto genera para tu proyecto.

A. Processes of creating and writing in digital media

1. How did the project website originally arise? And the Twitter account of the project?

2. How was the website designed? Which decisions did you make to do so?

3. Who is in charge of drafting the texts for the project website? Are these revised by a native speaker of English? Are the texts circulated among the project members before publishing them online?

4. When is the content of the website updated? Which sections undergo changes more often?

5. Who is responsible for managing the project Twitter account? Are there several research members that can write tweets?

6. How is the affordance of retweeting employed? What sort of content is normally retweeted?

B. Functions, structure and audience

7. What is the main function of the website and the social networks of the research project to which you contribute?

8. Which sections in your project website are the most relevant? Why so?

9. What makes a research project website of an international research group effective? And a Twitter account?

10. Who do you think that looks up the project website? And the Twitter account? Are you and the members of your research group also users who consult other websites from international research projects?

11. To what extent does the website play the role of platform, so that members of the research group catch up with the activities taking place and the productivity in the project?

C. Discoursal and pragmatic issues

12. Which strategies would you say that you deploy in the texts that you publish?

13. Do you try to communicate the specialised or technical information related to your research? In what ways is this accomplished?

14. What is the purpose of including images and videos sometimes? In what website sections do you think they are most suitable?

D. Views of the researcher

15. What do you like about the website of your research project? What would you value as positive about it?

16. From 1 (Not at all) to 7 (Absolutely), do you reckon, on the one hand, your project website and, on the other, your Twitter account, to be beneficial in order to…

- provide information about your research?
- promote the project you participate in?
- bring the project closer to the audience and interact with users?

17. Please, mark from 1 (Very little) to 5 (Very much), first, the time you invest in the digital communication of your project and, then, the reward this investment triggers for your research project.