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POSTHUMANISM AND TRAUMA

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ABSTRACT:

Although trauma studies and critical posthumanism have simultaneously developed, only in the last few years have critics started to see the imbrications of both disciplines. Trauma studies and critical posthumanism acknowledge that the traditional definition of the human as autonomous, exceptional, self-willed and rational subject, distinct from and dominating other life forms, needs to be revised and reconfigured. Whereas classical trauma theory dwells on the wound and the fragmentation that human subjectivity has endured and is concerned with the process of ‘acting out’ and ‘working through’ that will lead to the reintegration of the self’s bounded internal equilibrium, critical posthumanism sees the wound as an opportunity to redefine subjectivity as relational, interdependent and co-evolving with other bodies, machines and material forms. In the last few years, classical trauma studies has evolved from a Eurocentric, event-based, static conception of trauma to a more embedded and embodied vision of the trauma process that takes into account the ties of humans to other organic bodies, machines and material forms. In turn, critical posthumanism has found in trauma studies the vocabulary to understand and deal with the wound that moving beyond human exceptionalism and exemptionalism produces on us.

KEYWORDS: posthumanism; trauma; vulnerability; wound; subjectivity

1. Introduction

Posthumanism and Trauma are two paradigms that have simultaneously developed in the last few decades but whose imbrication has only recently become apparent. The academic history of both disciplines has many similarities but also important differences that account for the fact that, until recently, there were not many academic studies tackling their connection. The history of how both paradigms have approached is also the history of how society has changed in the last few decades and how we have moved from a culture of psychological trauma and the individual to a more open posthuman society of blurred boundaries and interconnections.

Since the turn of the 21th century many critics have defined the culture of the time through the vocabulary of trauma. For example, Mark Seltzer uses the term “wound culture” (1997), Kirby Farrell talks about “post-traumatic culture” (1998), Roger Luckhurst prefers “traumaculture” (2003) and Philip Tew “the traumatological” (2007). They don’t mean exactly the same but it is obvious that trauma has become a narrative that shapes

people's sense of identity. At the same time there has been a "posthuman turn" (Heise 2011; Braidotti 2013) and a "posthumanist paradigm shift" (Philbeck 2015) as we witness a radical transformation from an "'analog' (humanist, literate, book or text-based) to a 'digital' (posthumanist, code, data or information-based) social, cultural and economic system" (Herbrechter 2013: viii). Both critical branches share a preoccupation with subjectivity, agency, embodiment and the relationship with "the other": trauma sees subjectivity as shattered and fragmented, whereas posthumanism explores and expands its boundaries. In spite of the similar concerns of posthumanism and trauma, their approach to this subject has often been very different. However, in the last few years a dialogue has opened up between the two fields. Trauma has incorporated new subjectivities becoming more political, whereas posthumanism has integrated the vocabulary of suffering to show more concern with the shattering of identity produced by the posthuman paradigm. A posthuman space of vulnerability has opened up, a space that has been particularly explored in science fiction. It is in the analysis of science fiction novels, short stories, films and TV series that we find some of the most interesting attempts at drawing from both paradigms - a movement that has enriched both fields in the 21st century.

2. A culture of trauma or a posthuman culture?

A good starting point for this discussion is to review why and how both trauma and posthumanism have been used to define Western cultures in the last few decades. Even though trauma studies became popular in the 1990s, it was at the turn of the 21st century that the term gained currency to define culture and society. Mark Seltzer used the term "wound culture", which he defines as "the public fascination with torn and opened bodies and torn and opened persons, a collective gathering around shock, trauma, and the wound" (1997: 3). This "pathological public sphere" sees trauma as a way to locate the subject as a place of convergence between inside and outside, between individual and collective and between private and public orders. In this way, the understanding of the modern subject cannot be separated from the categories of shock and trauma (18). For Kirby Farrell "post-traumatic culture" is also a place of convergence, a collective experience of collective shock, but also a narrative. Thus, in the 1990s trauma is not just a clinical syndrome but a trope, "a strategic fiction that a complex, stressful society is using to account for a world that seems threateningly out of control" (1998: 2). He also describes it as a mood, the result of the shock produced by radical historical change as seen in catastrophes like the Great Depression, the Second World War, the Cold War, Kennedy's assassination, the Vietnam War or Watergate, among others. This mood is not the result of a single event but "belated, epiphenomenal, the outcome of cumulative stresses: a shock to people's values, trust, and sense of purpose; an obsessive awareness that nations, leaders, even we ourselves can die" (3). Traditional value systems and the cultural order are destroyed, which also affects people's sense of identity and safety. Sociologist Arthur G. Neal also uses this approach to US history in his book *National Trauma and Collective Memory: Extraordinary Events in the American Experience*, originally published in 1998 but reedited in 2005 to include the 9/11 terrorist attacks. 9/11 confirmed the logic of reading history through the narrative of trauma, more so taking into account how Western societies had felt especially protected and had to face how vulnerable they had become (2005: 181). Trauma has turned into a force that shapes both our reading of history and our social identity.

Roger Luckhurst prefers the term “traumaculture” (2003) to define Western culture since the 1990s, a time in which it became especially obvious that identity was being organised and articulated around the concept of trauma (28). Luckhurst finds this situation to be paradoxical since trauma shatters subjectivity and “to organise an identity around trauma is to premise it on exactly that which *escapes* the subject, on an absence or a gap” (28). Traumaculture is characterised by the articulation of mainly individual trauma through different aesthetic and discursive forms in a public environment. In this sense, it is interesting how after 9/11, Philip Tew prefers the term “traumatological” to encompass a more collective sense of trauma that is articulated in public and that challenges both personal identity and the social order (2007: 190). Yochai Ataria also believes that trauma has shaped and dismantled Western culture starting with the biblical sacrifice of Isaac and has led to a posttraumatic culture in which trauma and culture are embedded and inextricably linked. What is especially interesting about his contribution to the field is the argument that in the context of this posttraumatic culture we have reached the end of the human era and are on the brink of the posthuman one as society is trapped in the recreation of the trauma. Society has internalised the notion that “the ultimate fate of every emotion is inhuman pain, and therefore it is preferable to relinquish humanity and emotion as well [...] Essentially there are two alternatives in the posttraumatic world: indifference or destruction (of the self or of the other)” (2017: 40). Avoiding destruction leads to indifference which is a first step to the death of humanity. This is what Ataria understands as posthumanity as the title of his book indicates: *The Structural Trauma of Western Culture: Towards the End of Humanity*. However, the posthuman is a complex concept that has also been used to define contemporary culture in more positive terms. In spite of minor nuances, it is clear that all these critics find that the discourse of trauma is useful to understand both personal, collective and historical identity at the turn of the 21st century and especially in Western societies, even if, ironically enough, trauma is based precisely on the shattering of identity.

The narrative of trauma flourished at the same time as there was a “posthuman turn” (Heise 2011) in philosophy, art and literature. Although the origins of posthumanism can be traced back to the 1970s when feminism, multiculturalism and postcolonialism challenged Enlightenment thought, it was really in the 1980s that the term gained force, especially in its questioning of the boundary between human and machine as seen in Donna Haraway’s seminal “A Cyborg Manifesto”, originally published in 1985. Francesca Ferrando underlines the role played by feminist theorists and cultural studies in the 1990s and the way they embraced posthumanism. By the end of the 1990s a more philosophical posthumanism developed aware of the shortcoming of “previous anthropocentric and humanistic assumptions” (2013: 29). Borrowing the concept of paradigm shift from Thomas Kuhn’s *The Structure of Scientific Revolutions* (1962), Thomas D. Philbeck identifies a posthumanist paradigm shift that, since the 1960s, has progressively fractured the humanist paradigm, transforming humanist subjectivity as a result of a new technosocial reality that has led to a new relationship between humans and technology. The final stage is the decentralization of human subjectivity, a factor among others that Katherine Hayles explains in her seminal book *How We Became Posthuman* (1999):

[...] emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject’s manifest destiny to dominate and control nature. (288)

The liberal humanist subject has also been questioned from other perspectives. Heise underlines how in the 1990s there was also a rapid development of genetics, biotechnology and an environmental crisis which moved the posthuman imaginary towards new blurred boundaries, not so much the separation between human and machine but between human and animal, as seen in the emergent field of “animal studies” and the critique of speciesism. Historical landmarks like the cloning of Dolly the sheep, announced in 1997, and the sequencing of the human genome in 2003 contributed to this change. The new technological saturated environment and the accompanying blurred boundaries has, according to Heise “moved our conception of our own subjectivity far away from the dualistic humanist subjectivity of the 1960s [...] We are embodied beings that share our agency with material artefacts” (2011: 399). Agency and subjectivity are key concerns of both trauma and posthuman studies and they mark one of the key original differences between both fields but also one of the areas where more common ground has been found in the last few decades.

3. Reconfiguring subjectivity and redefining the human being

To understand trauma and posthumanism today one needs to go back to definition of “Man” of 14th century Renaissance humanism, and to 17th and 18th century Enlightenment humanism, a definition that has prevailed for centuries and that trauma and posthuman studies have dealt with in very different ways. Traditional humanist thinking has defined the human as autonomous and self-willed, dominating other life forms and defined by *his* exceptionalism, rational thinking, uniqueness and distinction from other life forms. Pramod K. Nayar defines this version of the human with four features or conditions: “rationality, authority, autonomy and agency” (2014: 5). The human subject is the centre of the world, is free to pursue *his* choices, is coherent, rational and self-conscious. There is a clear body-mind distinction in which the mind holds rationality and is the key to the human condition.

Both trauma studies and critical posthumanism have challenged this definition but not exactly for the same reasons and with very different results. In the case of trauma studies, Freud pointed out how human narcissism and exceptionalism had been progressively undermined by “three major blows at the hands of science” (1966: 353). The first two blows were the Copernican trauma, when Nicolaus Copernicus proved that the earth was not the centre of the universe and that it revolved around the sun, and the Darwinian blow when Charles Darwin ended with humans’ privileged place in creation and proved our descent from the animal kingdom. The third blow is the one Freud himself inflicted, a blow from psychoanalysis “which seeks to prove to the ego that it is not even master in its own house, but must content itself with scanty information of what is going on unconsciously in its mind” (Freud 1966: 353). Humans are not at the centre of the universe, or at the centre of the biological kingdom and we do not possess transparent minds we can master. Trauma studies draws from Freud and psychoanalysis and therefore acknowledges these blows to human exceptionalism, narcissism and centrality. Other critics have defended that we are living a fourth blow, one aimed at our superior thinking abilities. Luciano Floridi believes that the fourth industrial revolution has shown that we are not the only ones processing information logically and autonomously. We are ‘inforgs’, or informational organisms, connected and embedded in the ‘infosphere’, an informational environment that we share with other natural and artificial informational agents that also process information in a logical and autonomous way, often outsmarting

us (2014: 94). Michael A. Peters mentions a fifth trauma which he defines as “eco-technological” which “embraces both the age and realization of the Anthropocene and the apocalyptic vision of planet Earth, as well as ‘the age of machines,’ our increasing cyborg nature and our open ontological status as ‘digital beings’—as members collectively of large semiotic ‘big data’ systems driven by algorithms” (2020: 4). Peters deals with posthumanism in connection to the “wounds of modern subjectivity” and underlines how human subjectivity and the true essence of man have been questioned by critical posthumanism in relation to the role of technology and our fragile animal body.

As we have already seen, trauma has become a narrative that helps to explain the “wounds” to human subjectivity that humans have endured, a final blow produced by our eco-technological present, which is hard to assimilate. That same present is dealt with differently by trauma studies and by critical posthumanism, even though both fields diagnose the same reconfiguring of subjectivity and redefinition of human beings. What for trauma studies becomes a process of “acting out” in the face of a reality that cannot be assimilated, for critical posthumanism is a chance to embrace the nonhuman realm. However, to understand the language of trauma and why it is especially popular when coming to terms with the changes that human subjectivity has experienced in the age of the posthuman, we have to return to the school of Deconstructive Trauma Studies led by Cathy Caruth and her two seminal works: *Unclaimed Experience: Trauma, Narrative, and History* (1996) and the edited collection *Trauma: Explorations in Memory* (1995). Caruth, drawing from Freud and psychoanalysis, sees psychic trauma as a wound inflicted upon the mind that breaks the victim’s experience of time, self and the world and that leads to great emotional anguish (1996: 3-4). The paradox of trauma is seen in its temporality since the traumatic event is not assimilated when it occurs but belatedly (Freud’s concept of *Nachträglichkeit*) when the traumatized person is possessed by an image or event. The delayed response implies repetition-compulsion and re-enactment which fixates the trauma and traps the victim. However, trauma resists narrative articulation and in its delayed response it produces repeated hallucinations, nightmares, flashbacks, somatic reactions, behaviours stemming from the event and general numbing (van der Kolk and van der Hart 1995: 173). The impact of pain in the body also resists articulation since “[w]hatever pain achieves, it achieves in part through its unsharability, and it ensures this unsharability through its resistance to language” (Scarry 1985: 4).

Dominick LaCapra, also drawing from Freud, focuses on two concepts that help to understand the dynamics of trauma: ‘acting out’ and ‘working through’. Acting out is the compulsive repetition or re-enactment of trauma through flashbacks, nightmares, compulsively repeated words and images. Working through is a different process by which the person tries to gain critical distance from the trauma, distinguish between past, present and future and assume responsibility (2001: 141-53). The movement from acting out to working through may never be totally accomplished but it is the path for victims to overcome traumatic experiences. Classical trauma studies provides the narrative tools to come to understand the traumatized human subject that results from the blow of seeing how the autonomous, exceptional, domineering, rational and self-willed human is losing ground to machines and other life and material forms. Classical trauma studies sees these changes as problematic, they need to be acted out and worked through. In a way, trauma studies acknowledges the changes in human subjectivity that have taken place in the same way as critical posthumanism does, but implicitly, it still believes that there is a coherent self one can aim at returning to. As Miriam Fernández-Santiago puts it “trauma studies premise the humanist norm of a natural, healthy (whole) human being” (2021: 143).

The language of trauma has also permeated posthumanist discourse as seen in the way Neil Badmington in “Theorizing Posthumanism” (2003) accounts for the way we navigate the traumatic change from humanism to posthumanism. He criticises that idea that posthumanism entails an absolute break with humanism, ignoring what “remains of humanism in the posthumanist landscape” (15). Badmington draws from Derrida and mirrors Lyotard’s view of postmodernity as a rewriting and working through of modernity in his own reading of posthumanity. In it, he also draws from Freud’s concept of working through and incorporates the idea that a traumatic event can be neither remembered nor forgotten. The post- of posthumanism is not an absolute break with the legacy of humanism but it occurs inside it as it consists

not of the wake but the working-through of humanist discourse. Humanism has happened and continues to happen to “us” (it is the very “Thing” that makes “us” “us,” in fact), and the experience—however traumatic, however unpleasant—cannot be erased without trace in an instant. [...] A working-through remains underway, and this coming to terms is, of course, a gradual and difficult process that lacks sudden breaks. An uneasy patience is called for. (22)

The transition from humanism to posthumanism is traumatic in itself and thus needs to be worked through in a gentle, gradual way. This is a process we are still living since we still have to engage with humanism to accept the things to come. Badmington’s use of ‘working through’ is very telling of the way the trauma narrative has also permeated posthuman discourse. In his essay, posthumanism is presented as a trauma that needs to be incorporated in our frame of mind if we do not want to fall prey to the compulsive re-enactment of acting out.

Posthumanism can be understood as traumatic because it challenges the definition of the human coming from the Enlightenment and the restricted notion of the human as exemplified in Leonardo da Vinci’s Vitruvian Man. As Rosi Braidotti explains in her seminal book *The Posthuman*, the classic humanist model of human perfection reduces those that do not fit the mainly white, Western, handsome, able-bodied, heterosexual ideal “to the less than human status of disposable bodies” (2013: 15). Unlike humanism, critical posthumanism rejects the self-centred individualism of the human subject and provides alternative ways of conceptualizing it. Critical posthumanism sees the organic body, the machine, and other material forms as relational, co-evolving and interdependent. Braidotti’s affirmative posthuman position differs from trauma studies’ reading of the posthuman reshaping of subjectivity in terms of trauma. As she puts it, “the end of classical Humanism is not a crisis, but entails positive consequences [...] The posthuman subjectivity I advocate is rather materialist and vitalist, embodied and embedded, firmly located somewhere” (51).

We have seen how posthumanism can be read through the narrative of trauma as a time of working through the classical conception of the human but the interactions of trauma and posthumanism can also be seen in the representation of trauma from a posthumanist perspective. If by using the lens of the posthuman we understand human subjectivity as relational, co-evolving and interdependent, this new form of subjectivity also reacts differently to trauma. The process of working through psychic trauma expands when the subject becomes porous and processual and subjectivity turns into something dynamic that blurs boundaries. In this sense, in the last few years the classical Caruth-based model

of trauma has been contested by critics for being Western-biased, event-based and for its narrowness, and insistence on the unrepresentability of trauma. A key book to understand this change is *The Future of Trauma Theory: Contemporary Literary and Cultural Criticism* (2014), edited by Gert Buelens, Samuel Durrant, Robert Eaglestone. In the book Stef Craps denounces how classical trauma studies reflects a Eurocentric, monocultural orientation, an idea he also developed in *Postcolonial Witnessing: Trauma Out of Bounds* (2013). Trauma studies needs to broaden the definition of trauma and establish its cultural and historical specificity. It is also necessary to move beyond an isolated conception of trauma studies. Critical posthumanism has provided new tools to help overcome some of the shortcomings of classical trauma theory and it is in works that combine trauma studies and critical posthumanism that we find some of the most interesting proposals as to where the field is heading.

4. Hybridity and the encounter with the human and nonhuman other

Deniz Gündoğan İbrişim in her essay “Trauma, Critical Posthumanism, New Materialism” (2020) deals with the ways trauma theory needs to engage with the predicaments of critical posthumanism that challenge the definition of human beings as privileged and isolated from their socio-ecological context and natural-social entanglements. This entails reconceptualising the centrality and privilege of “the human as the emblematic wounded and traumatized being that is at the root of western psychoanalytical conceptualizations of the ‘talking cure’ or ‘the work of therapy’” (230). Starting from Braidotti’s idea of the interconnection of human beings with (non-human or “earth”) others and her questioning of Cartesian dualism and Hayles’s definition of the human as “an amalgam”, İbrişim underlines critical posthumanism’s questioning of the divide between subjectivity/objectivity, mind/matter, nature/culture, human/non-human. As a result, agency is complicated as a distinguishing, unique quality of humans, inviting also the reconsideration of trauma theory from a new perspective.

İbrişim also underlines how trauma theory has changed in the 21st century and has been revised and denounced for being Western, flat, depoliticised and dehistoricised (see Alexander, Balaev, Craps, Luckhurst, Najita, Rajiva, Rothberg, Visser...) as we have seen before. These critics have moved from Eurocentric, event-based, static conceptions of trauma towards the enduring trauma of colonialism and introduced concepts like “multidirectional memory” (Rothberg 2009) that allow for dynamism, interculturalism and transculturalism and “cross-traumatic affiliation” that moves the debate towards “alliances and solidarities that transcend race, ethnicity, nationality, religion, and culture” (Craps 2013: 89). İbrişim explains that these changes have led trauma studies away from Freudian psychoanalysis and Eurocentrism and into “the critical memory of colonial experience” and “the large-scale effects of violence in an age of globalized neo-liberalism” (2020: 232). Psychologically-oriented trauma (based on the isolated individual trying to work through trauma, debilitated by mourning and melancholia) does not usually consider the “embedded and embodied nature of the process of working through trauma and how materiality plays into this image with its multiple registers” (İbrişim 2020: 233). In this sense, posthumanism and new materialism are frameworks that can offer new modes of thinking about trauma. New materialism is a key concept

since it raises questions about the idealised and bounded individual and establishes the traumatised subject's ties with other humans but also with animals, plants, matter, objects and landscapes.

In her review of key figures within new materialism, İbrişim highlights Karen Barad and her concept of "agential realism" with her choice of the concept of intra-action, a process during which distinct agencies emerge rather than precede it, they do not exist as individual agencies and are only distinct in a relational sense. Agency becomes something dynamic and is an enactment that affects human and nonhumans. Identities and bodies are material emergences and matter and meaning cannot be separated. Jane Bennett's conception of the vitality of nonhuman bodies and their capacity not to just block the designs of humans but act as forces of their own also becomes very useful. Agency is more distributive, eliding what is commonly taken as distinctive about humans. Bennett argues that the "environment" is active and humans are not sovereign subjects. İbrişim continues with her account of Stacy Alaimo's theories on the intimate connection between dynamic human and non-human bodies and embodiment as always already trans-corporeal: "Trans-corporeality means that all creatures, as embodied beings, are intermeshed with the dynamic, material world, which crosses through them, transforms them, and is transformed by them" (Alaimo 2018: 435) and it opens a "mobile space that acknowledges the often unpredictable and unwanted actions of human bodies, non-human creatures, ecological systems, chemical agents, and other actors" (Alaimo 2010: 3). The idea is that the incorporation of new materialism to trauma theory can readjust universalist and anthropocentric conceptions of Western trauma and provide new insights and approaches. The traumatic experience is not self-contained and locked inside as connections are explored with other bodies, the environment or objects.

Tony M. Vinci in his essay "Posthuman Wounds: Trauma, Non-Anthropocentric Vulnerability, and the Human/Android/Animal Dynamic in Philip K. Dick's *Do Androids Dream of Electric Sheep?*" (2014) also shows a similar approach that he applies to his reading of the way Philip K. Dick's novel engages with the traumatic. Even though his reading applies to Dick's novel, the underlying ideas capture one of the ways in which trauma and the posthuman connect in contemporary culture. Vinci's contention is that *Do Androids Dream of Electric Sheep?* explores American cultural anxieties towards ontological and political instability since World War II, through trauma-deferment that relies upon "the displacement of the ontological-rupturing effects of trauma onto the illusory but stable model of a testable, privileged anthropocentric humanism" (2014: 93). The myth of human exceptionalism is kept alive by culturally marginalising the android and showing empathy towards the animal. This is so to defer the realization that the human has always been posthuman. It is a defense mechanism to deal with the trauma of the posthuman. However, Vinci does not read it as something negative but considers the positive potential of this posthuman trauma. The human is reconceived as a "becoming-with otherness" and suggests that "unmediated traumatic encounters perform a temporary erasure of the essentialized human subject, which, in turn, opens us up to trans-subjective engagements with the android and the animal that facilitate a radical posthuman ethics of expansive vulnerability" (94). Through the traumatic encounter with the other, humans discover the transformative power of grief and vulnerability. The wound is necessary to find authentic feelings of empathy since invulnerability is a dangerous form of narcissism. When trauma is experienced directly and not through deferment in a fluid space, the self

is destabilized as a singular construction and becomes a site “through which multiple environment-worlds co-relate” (102).

Vinci further developed his theories in his book *Ghost, Android, Animal: Trauma and Literature Beyond the Human* (2020) by focusing on the ways trauma can be articulated through the three creatures that have been employed in both trauma literature and in some of the foundational texts of critical posthumanism: the ghost as disembodied voice, the android as embodied consciousness and the animal as embodied life lacking human language. These canonised posthumanist figures “create transsubjective, trans-corporeal fields that invite readers to cross subjective and cultural thresholds and interact with the ‘impossible’ pain of others through the imaginative acceptance of spectral voices, embodied realities, and alternative ontologies” (2020: 32). Like İbrişim, Vinci sees trauma and its destabilising effects on the self as something positive, even necessary, that allows for the transition between the world of human exceptionalism and anthropocentric humanism to an ethics of posthuman openness and radical vulnerability. It allows for a different type of empathy that “recognizes the trace of others within the self and, perhaps more importantly, the external imbrications between beings that necessitate a lack of classification” (2014: 107). Acknowledging trauma from a posthumanist perspective brings about a positive vulnerability in line with the understanding of critical posthumanism as an ethical project. Posthumanism brings tools of liberation as seen in Haraway’s (1991) conception of the cyborg in a postgender world which dismantles categories like man/woman, nature/culture or human/cyborg, or Hayles’s coupling of humans and machines, with humans enmeshed in informational circuits (1999: 35). It is the critical posthumanist idea that human life is embedded in a material world that offers the possibility for trauma studies to reconsider the idea of trauma as a wound that threatens the subject’s internal equilibrium. Rather than dwell on the wound that the encounter with the other produces, posthumanism opens the door for a working through that reintegrates a sense of self that has radically changed as the assimilation with the other is acknowledged.

İbrişim’s (2020) reading of J. M. Coetzee’s *Disgrace* also goes into this direction. In it the process of working through trauma is not performed through the well-known path of acting out and working through to recompose the shattered subjectivity. The materiality of bodies, the agentic powers of nonhuman entities and the interdependence of the human and the nonhuman play a key role in the working through of trauma and the construction of a posthuman form of agency. David, the white arrogant urban male main character in the novel embodies the autonomous rational subject who feels entitled to abuse others. A traumatic experience, the rape of his daughter, destroys his self-centred self and turns him into a porous embodied and affective subject, ready to pay attention to the outside world and the nonhuman realm. Drawing from both Braidotti’s concept of *zoe* and the subject as relational embodied and embedded, affective and accountable (2018: 1) and Caruth-LaCapra’s theories on the workings of psychic trauma, İbrişim reads the metaphorical journey that David undergoes to reach “an expanded self through an interactive relation between nature and culture, mind and matter” (2020: 9). He recalibrates his sense of being in the world and develops a concern for nonhuman animals constructing alliances between both human and nonhuman entities and actors and dwelling in the human-animal continuum. The novel rethinks trauma subjects as porous and processual and reconfigures the working through trauma process “transferring agency to the material and affective

capacities of the nonhuman realm” (12). Agency is thus something that does not belong exclusively to the autonomous self but is constructed through the encounter with the nonhuman realm.

Classical trauma theory is not immune to assimilation and the encounter with the other. Caruth claims that trauma “may provide the very link between cultures” (1995: 11) and lead to a cross-cultural understanding and the creation of new forms of community and LaCapra sees empathy as a necessary response to traumatic events as long as there is a limit to the identification with the victim. He defines “empathic unsettlement” as “a kind of virtual experience through which one puts oneself in the other’s position while recognizing the difference of that position and hence not taking the other’s place” (2001: 78). Yochai Ataria also underlines the role of empathy since “[a]s we listen to traumatic stories, we bond with these figures and feel part of something bigger. Their stories enable us to shift from I to WE” (2017: xvii). Classical trauma theory does not reject empathy and the encounter with the other (be it a different culture or a different being) but the limits are still firmly established and the blurring of boundaries that total empathy would require needs to be prevented in order to reconstruct the sense of self. Critical posthumanism goes beyond “empathic settlement” and invites instead a new definition of the subject as porous, embodied and affective, expanding beyond the boundaries of the self.

Another interesting study is María Ferrández San Miguel’s reading of Octavia Butler’s “Bloodchild” and James Tiptree, Jr.’s “The Girl Who Was Plugged In” through the lens of trauma, biopower and the posthuman (2018). Ferrández San Miguel also sees the posthuman form of agency as potentially liberating. Science fiction is a perfect genre to represent agency beyond the limitations of humanism and the autonomous self. As such it has served to illustrate the theories of critics like Haraway, Hayles, Badmington, Graham and Herbrechter among others. However, science fiction is not one of the preferred genres to illustrate the workings of trauma since it does not follow the conventions of classical trauma fiction which tends to favour nonlinear representations of traumatic events through experimental literary techniques that may mirror the fragmented experience of trauma in the mind. In the two dystopian stories of the future that Ferrández San Miguel studies the main characters are trapped in systems of oppression and suffer the effects of trauma and biopower but find gaps to exert their will and articulate forms of resistance. However, the agency they find is not that of the autonomous, unified humanist subject but a posthuman agency based on “resistance, on indirection, on relativity and multiplicity, and which emerges from the embracing of hybridity, of the trace of the inhuman within the self” (2018: 41). According to Ferrández San Miguel, the stories reflect the globalised biopolitical regime of western neoliberal capitalism with the appropriation and subjugation of the body for economic gain. This is potentially traumatising as agency is already limited due to the way people are pressed to produce, consume and reproduce to be of value. The ills of globalisation, consumerism and late capitalism and the traumatic enslavement under technoscience are reformulated through the figures of the cyborg, the zombie and the surrogate that represent a type of boundary shattering and resist bodily appropriation. Both trauma and posthuman theory conceptualise the fragmentation of the subject and of culture but whereas trauma sees the fracture as negative, the imbricated notions of embodied subjectivity, agency and the posthuman in these short stories result in a posthuman form of agency that is actually

liberating. The trauma that the biopolitical regime brings is overcome through posthuman embodiment and boundary transgression.

5. Informational patterns and the embrace of the machine

The exponential way in which technology has changed and the way we are becoming one with machines has also been discussed in connection to critical posthumanism, transhumanism and trauma theory. In *How We Became Posthuman*, Hayles discusses the role of cybernetics and artificial intelligence in the reshaping of the human-machine continuum. Cybernetics breaches the boundary between the human body and electronic circuits, whereas the studies on artificial intelligence blur the boundary between computer programs and the human mind. The mechanism of the working of the mind was seen through the lens of the working of a computer: “humans were to be seen primarily as information-processing entities who are essentially similar to intelligent machines” (Hayles 1999: 7).

The 21st century has marked the growth of new technologies that are exponential, digital, and combinatorial. According to Klaus Schwab, the founder and executive chairman of the World Economic Forum, this is the fourth industrial revolution, a paradigm shift which is transforming “how we work and communicate, as well as how we express, inform and entertain ourselves [...] reshaping the economic, social, cultural and human context in which we live” (2016: 2). The size, speed and scope of these changes are historical and they involve technologies like artificial intelligence, robotics, augmented reality, additive manufacturing, neurotechnologies, biotechnologies and energy technologies, among others. A key characteristic of this revolution is the way it blurs the physical, digital and biological domains, as the emerging technologies fuse and interact in the three domains. Cybernetics, artificial intelligence, virtual and augmented reality have fuelled transhumanist dreams of leaving the body behind. As with critical posthumanism, transhumanism sees the human as porous and mutable but, unlike critical posthumanism, it privileges the mind over the body and seeks to free humans from their biological/corporeal limitations to create “radically enhanced humans” (Bostrom 2005: 5). For transhumanists the machine enhances the human and is to be embraced.

Critical posthumanism does not reject technology as a way to reshape the human either. The continuum machine-human is explored in Haraway’s cyborg manifesto where she states the idea that the cyborg could help humans transcend their natural bodies. However, Haraway’s cyborg is loaded with political significance as it can become a symbolic source of liberation against limited conceptions of the human. Katherine Hayles warns against the dangers that cybernetic posthumanism can entail since it sees the human being as pure information pattern whose embodiment is not important since it can be contained in different media. She advocates for a version of the posthuman that acknowledges that human life is embedded in a material world that we need and depend on for survival. Hayles settled the basis for critical posthumanism’s belief in the continuity between body and mind and the human and non-human, including the machine.

From the perspective of trauma studies, all these exponential technological changes are affecting our own sense of identity as humans and constitute, as a result, a cultural trauma.

According to Jeffrey Alexander, “[c]ultural trauma occurs when members of a collectivity feel they have been subjected to a horrendous event that leaves indelible marks upon their group consciousness, marking their memories forever and changing their future identity in fundamental and irrevocable ways” (2004: 1). The rapid development of information and communication technologies in the context of the fourth industrial revolution and the ensuing blurring of the physical, digital and biological domains have affected the sense of who we are, where we come from and where we are heading.

The difficulty of humans to adapt to technological change can be traced back to the origins of trauma theory. The concept of mental trauma developed as a result of the effects in the mind of railway accidents in the 1860s, thus in conjunction with modernity and urban development. As Ataria puts it: “mental trauma is not merely a byproduct of the industrial era but rather stands at its very heart as a constitutive force that has shaped the structure of its cultural discourse” (2017: xvii). Roger Luckhurst in “Future Shock” (2014) has also explored the connection between trauma and technology and its reflection in science fiction. Through Alvin Toffler’s concept of “future shock”—which he used in the 1970s to define the distress produced by the exponential technological changes produced in advanced capitalist countries—Luckhurst identifies a large number of narratives that deal with the potential traumatic impact of the “wired-in, webbed and networked computerized present” (158) and the way it is transforming subjectivity. Trauma studies has not played much attention to science fiction as a genre. However, Luckhurst underlines how science fiction is a literary genre in which the trauma and the posthuman paradigm can meet since it provides the narrative context to explore the dismantling of human subjectivity in the face of changing technology. This involves “a reconsideration not only of how trauma might be represented and narrativized, but also, potentially, of the very notion of trauma itself” (161). This rapid technological change may also change in turn our definition of subjectivity and lead to a reconceptualization of the notion of trauma. In this sense, Martin Holz in *Traversing Virtual Spaces. Body, Memory and Trauma in Cyberpunk* (2006) has studied cyberpunk, a sub-genre of science fiction, and the connection between virtuality and trauma. He analyses how virtuality is an experimental laboratory in which different worlds and new selves can emerge and a space to escape trauma but also to simulate it as it blurs the distinction between the virtual and the real to the point of existential insecurity.

Anthony Miccoli in his book *Posthuman Suffering and the Technological Embrace* (2010) investigates precisely the interface and the nature of the boundary between the human and the technological and how technological artifacts increase but also diminish our agency at the same time: “We subconsciously (and traumatically) cede power to our technological artifacts, and are further traumatized when those artifacts fail” (2010: x). Posthuman suffering is the feeling of inadequacy, alienation and lack of agency that technological artifacts cause on us when we become aware of our need for technology but also our dependence on it to reach our full potential. The posthuman reconceptualises human beings into informational processes and patterns of information so that they can be more compatible with computerised systems or artificial intelligences, becoming “datafied” humans, who are “fully available to a complete integration with the information that composes the world” (2010: 106). We become the sum-total of our data or code as we adapt to technology by becoming more compatible with the underlying code and losing part of our humanity and our identity in the process. We enter a loop of complexification since we think that the only way to know what is perceivable is through

more advanced technological systems (Miccoli 2010: 79-80). We sublimate the trauma that technology causes on us by the obsessive/compulsive repetitive use of it. To use the vocabulary of trauma, we act out our posthuman suffering by further re-enacting our need for and dependence on technology. This dependency increases as every new technology allows us to offload to that technology a skill that we used to exercise, a skill that is 'built into' the systems we create, and 'built out' of ourselves: "In this manner, the posthuman embrace becomes a submission to the technological other, rather than an assertion of the human" (107). This is the real trauma of the posthuman, the giving over of our superiority to technology.

Francisco Collado-Rodríguez (2016) reads Thomas Pynchon's *Bleeding Edge* through the double lens of trauma and the posthuman, the two paradigms that rule the society depicted in the novel and, to a certain extent, our own society. On the one hand, posthuman beings are understood as informational energy and as such they navigate the virtual sites of information. On the other hand, after 9/11 they are also heavily traumatised, which makes them vulnerable to manipulation and control by the unknown rulers of those virtual sites. In his reading of the novel, Collado-Rodríguez draws from two seminal works: Marshall McLuhan's "Narcissus and Narcosis" in *Understanding Media* (1964) and Norbert Wiener's *The Human Use of Human Beings* (1954). McLuhan's notion of 'self amputation' is especially useful to understand the posthuman condition: "Any invention or technology is an extension or self-amputation of our physical bodies, and such extension also demands new ratios or new equilibriums among the other organs and extensions of the body" (1964: 49). Technology is an extension of the nervous system which explains the link between the development of some media and people's fascination with any extension of themselves. The main aim of these extensions is to increase human power but the body needs to find a new equilibrium with each new medium as it changes our whole psychic and social make-up and produces a numbness and enslavement, which McLuhan names 'self-amputation'. McLuhan connects then the development of technology with numbness and trauma, as the body tries to find a new equilibrium. Bernard Stiegler (2009) offers a more posthumanist view with his understanding that technics and humans have always established a mutually constitutive relationship since humans are prosthetic beings, always wound up with technology. This goes beyond Norbert Wiener's 1950s vision of the future role of automation in society and how humans and machines could cooperate or Hayles's fears in *How We Became Posthuman* (1999) that humans could be reduced to informational patterns ready to leave the body behind.

Pynchon's novel explores this fear of a posthuman world defined by the information flow and our delineation as information patterns. Cyberspace and virtual reality are the realms in which social interaction takes place and information is transmitted and also the realms that hide a dangerous dark side that needs to be exposed. This is the site "of a structurally traumatized social condition brought forth by the misappropriation and control of collective suffering, by its commodification through posthuman web addiction and information overload, and by the blurring of limits between victim and perpetrator" (2016: 236). The situation causes the manipulation of trauma narratives and people's emotions, trauma misappropriation, mental stagnation and commodified mourning, as people lose consciousness of their surrounding physical reality. The protagonist of the novel is resilient and succeeds in escaping the commodified web and return to the realm of the physical, which leads to the recognition of the human other and a sense of life and

regeneration. Virtuality is revealed as false and enslaving and affects are seen as the way to dispel posthuman commodified trauma.

In Collado-Rodríguez's analysis the vulnerability that trauma causes is not seen in Vinci's positive terms as a way to move from the world of human exceptionalism and anthropocentric humanism to an ethics of posthuman openness and radical vulnerability. The vulnerability is seen as dangerous since it makes people fall prey to a virtuality that facilitates the control and manipulation of collective suffering. Trauma is worked through by returning to the material and recomposing the sense of agency. This is an idea that connects with critical posthumanism's understanding of human life as embedded in a material world, even if the healing implies the recovery of the sense of self rather than the posthuman assimilation with the material, nonhuman or human other.

The relationship between the digital environment and trauma has also been explored by Anna Menyhért, (2020) focusing on online trauma transmission, the uncontrollable spread of images and the possibility of intergenerational re-traumatisation through the digital recovery of century-old images. However, the digital does not only transmit trauma but it also provides the space for sharing and commenting, a way to work through and process trauma and build resilience. Digital trauma studies is a new field that has emerged to study "the representation, transmission and processing of trauma—individual, as well as collective, historical and intergenerational—in the digital environment" (2020: 242). Whereas Collado-Rodríguez denounces the dangers of political manipulation of the traumatised in the virtual realm, Menyhért sees it as a safe space for sharing, healing and opening up access to the past and, more importantly, to induce social and cultural change. Resilience can be built up in the digital environment but, according to Collado-Rodríguez resilience needs to be established in the material world to be real. By contrast, Miccoli sees our integration with the information that composes the world as inescapable, posthuman suffering is part of the way we live.

5. The Anthropocene and Eco-Trauma

Critical posthumanism is especially concerned with the nature-culture continuum to understand the world and the embodied structure of the expanded relational self. This relational capacity includes non-anthropocentric elements, what Braidotti calls *zoe*—the non-human, vital force of life (2013: 60). It is critical posthumanism's stance to contest anthropocentrism and human exceptionalism since being embodied and embedded entities we are part of nature. In the context of the Anthropocene—which refers to the present geological epoch in which human activity has had a significant impact on the planet's climate and ecosystems—Braidotti proposes a shift towards a planetary, geo-centred perspective.

In the last few decades, classical trauma theory has evolved and opened up to other conceptions of the traumatic that include the reading of the effects of the Anthropocene through the lens of trauma. As happens with other topics that are simultaneously approached from the perspective of critical posthumanism and trauma theory, whereas critical posthumanism offers an expanded, planetary vision of the self, trauma studies focuses on the effects on the self of this planetary change. Stef Craps has worked in the

field of climate trauma and in his chapter on the topic in *The Routledge Companion to Literature and Trauma* (2020) explains the evolution of the field and the insights it provides.

Climate change is becoming increasingly visible and starting to cause serious psychological distress, acute mental health impacts (including trauma, PTSD and depression) and chronic ones (feelings of helplessness, hopelessness and loss among others). A new vocabulary for environmentally induced distress has developed within the field with terms like solastalgia, ecological grief, ecosickness, Anthropocene disorder and pre-traumatic stress disorder gaining currency. Pre-traumatic stress disorder—coined by psychiatrist Lise Van Susteren in 2013—has been especially popular and important since it involves the revision of the idea that PTSD is a disorder primarily related to the past to also consider the threat of future events and the anticipatory anxiety they can produce, which can be equally traumatic and result in the same symptoms. E. Ann Kaplan's book *Climate Trauma: Foreseeing the Future in Dystopian Film and Fiction* (2016) is representative in its use of pre-trauma (Pre-TSS) as a new way to expand trauma theory and apply it to the fear of catastrophic environmental crisis, which is reflected in climate dystopian narratives.

Craps underlines that these expanded theories of trauma that include the future remain fixed on the idea that trauma is an essentially human experience and sustain an anthropocentric worldview. This position can be traced back to the exclusively anthropocentric interpretation that Freud and later Caruth gave to the story of Tancred and Clorinda, ignoring the harm to the natural world (the wounded tree). Craps sees this as a manifestation of what Wandersee and Schussler call “plant blindness” (2001: 3) but he also underlines how trauma is starting to be reconceptualised in non-anthropocentric terms acknowledging the interconnection between human and non-human traumas. He gives the example of Anil Narine's edited collection *Eco-Trauma Cinema* (2015) in which she defines eco-trauma in such a way that humans are seen as both victims and victimisers: “The traumas we perpetuate in an ecosystem through pollution and unsustainable resources management inevitable return to harm us” (Narine 2015: 9). Other critics like Reza Negarestani (2011), Robin Mackay (2012) and Tim Matts and Aidan Tynan (2012) also believe that the reach of trauma extends beyond the human (anthropocentrism) to include not only living (biocentrism) but also inorganic domains. This would extend psychological trauma towards geology and cosmology and underline the idea that traumas are “nested” within one another. A psychic trauma connects with an organic trauma, a terrestrial one and in turn a cosmic one. The influence of posthumanism and new materialism on trauma studies becomes especially relevant in these studies. As Craps underlines, trauma is being challenged to move beyond human exceptionalism and exemptionalism and expand the realm of the grievable to also mourn ecological losses.

6. Conclusion

Trauma studies has benefited from critical posthumanism in the way it has expanded the concept of agency beyond eurocentrism and anthropocentrism and has opened up to vulnerability with the encounter with the nonhuman animal, the machine and the material as a means to work through trauma and embed the traumatised human in the realities of

the surrounding world beyond the self. Whereas transhumanism offers pharmacological treatments for PTSD, like the use of propranolol to prevent and treat the symptoms of trauma (Outka 2009), critical posthumanism does not attempt to ‘heal’ trauma but provides instead the tools to accept a posthuman form of agency based on resistance and that embraces hybridity and the human co-evolution with technology and nature, even expanding the realm of the grievable as seen in the mourning of ecological loss. Classical trauma studies is often accused of lacking a political stance in its discourse of silence. However, in its combination with posthuman discourse it finds a means to open up to resistance and contestation. On the other hand, critical posthumanism has found in trauma studies the vocabulary and tools to understand the effects of abandoning humanism and embracing the blurring with the other (be it the animal, the machine or the material). Abandoning anthropocentrism produces a wound that we need to acknowledge and that needs to be acted out if we want to fully embrace the posthuman condition.

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