Solarpunk Cyborgs Against Cyberpunk's Pessimism:
The Evolution of the Feminist Cyborg Archetype from Moxyland, to "Solar Child" and "For the Snake of Power"

Alejandro Rivero-Vadillo[1]

ABSTRACT

This article explores the different ways in which some female-authored solarpunk stories employ cyborg models developed by feminist cyberpunk fiction. The text explores contemporary critical readings of cyberpunk fiction and analyzes Lauren Beukes's *Moxyland* (2008), Camille Meyers's "Solar Child" (2017), and Brenda Cooper's "For the Snake of Power" (2018) focusing on the way in which embodied and disembodied female cyborg(esque) subjectivities are represented. The article argues that, although solarpunk has abandoned the idea of subversion in cyberspace developed in early cyberpunk, some of the techno-human alliances embodied by cyborgs that are inherent to this punk movement have remained. Either developing physical bio-cyborgs liberated from the biological limitations of materiality, as in Meyers' story, or representing STEM-experienced women who cooperate with AIs in order to fight against green capitalism's material structures of power, contemporary solarpunk hybrid subjectivities are greatly influenced by feminist cyberpunk's portrayals and symbolical uses of the cyborg.

Keywords: feminist cyberpunk, solarpunk, feminist cyborg, STEM female cyborgs.

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Climate change is forcing cyborgs to abandon cyberspace, and through that, a renovated feminist posthumanism is being materialized in contemporary evolutions of the cyberpunk genre. The models that described the female techno-humans of old, produced during the different waves of feminist cyberpunk, are finding their own space in contemporary solarpunk short stories, although with new concerns in mind. Solarpunk is a literary, performative, artistic and political movement that aims to inspire optimistic futures in which humans and sustainable industrial technology can coexist on Earth. Although

solarpunk imaginaries are heterogeneously built, both in terms of visuals and ideas, the corpus of published solarpunk stories opens the door for comparative analysis of technology between the cyber and solar modes of worldbuilding. The liberatory role traditionally associated to the cyborg in feminist cyberpunk has offered a suggestive model that some female authors have replicated in their own solarpunk stories. This article explores how cyberpunk feminism has codified an idea of the cyborg, developing two different models engaging with embodied and disembodied portrayals of "the female cyborg," and comments on how both of them have influenced later solarpunk imaginations of "ecologized" techno-women. By analyzing contemporary literary theory on feminist cyberpunk and exploring Lauren Beukes's post-cyberpunk novel *Moxyland* (2008), Camille Meyers's "Solar Child" (2017), and Brenda Cooper's "For the Snake of Power" (2018), this article illustrates how cyborg models have mutated from their original techno-optimism to post-cyberpunk techno-defeatism and back to techno-optimism in recent solarpunk, thus changing the very notions of what it is to be a cyborg.

1. THE CYBERPUNK TECHNO-WOMAN

Before delving into the complexities of solar and (post)cyberpunk cyborgs, it is necessary to briefly comment on how the cyberpunk feminist cyborg came into being. Cyberpunk's portrayal of feminine bodies within its feminist and non-male-authored branch is far from monolithic and has substantially evolved since the early 1980s. Scholar Lisa Yaszek (2020) defines three main historical subdivisions of the feminist cyberpunk movement. The first one (from 1980 to 1990) is characterized by narrative subversions of the more masculinist sense of cyberpunk popular at the time (34). Mainstream representations of cyborg bodies during this decade were patterned and reinforced by stereotypical gender dynamics and so, "male cyborgs [such as Robocop or Terminator] became invincible while female cyborgs were sexually exploited [such as Molly in Gibson's *Neuromancer*]" (Lavigne 83). This view of technology overemphasizing patriarchal gender relations may also be observed in the very same cyberspace created by many male authors. As Yaszek claims, commenting Nicola Nixon's "Cyberpunk: Preparing the Ground for Revolution or Keeping the Boys Satisfied?" (1992), "cyberpunk was an antifeminist mode of storytelling that gutted the future of meaningful female actors and cast both cyberspace and corporations as feminized spaces to be penetrated and tamed by male hackers more interested in profit than revolution" (Yaszek 2020, 34). These female cyborgs, mostly virtual AIs, merged with a technologized territory to be conquered by masculine characters. In contrast to this trend, feminist authors from that time. For instance, Pat Cadigan,

> casts women as resourceful heroines who oppose the exploitative practices of an inherently masculinist capitalism. . . . Rather than following the adventures of a lone man whose efforts to ensure justice are compromised when he is seduced by a femme fatale who enmeshes him in corrupt and uncontrollable social, political and legal institutions, Cadigan's protagonists

are usually women whose efforts to do good in the world are compromised by men who make bad choices that enmesh them in corrupt and uncontrollable social, political and legal systems. (Yaszek 34)

Cadigan's cyborgs embodied a gender-liberatory view of empowerment represented by technologically enhanced women. They were feminized versions of the Robocop/Terminator cyborg archetype, making them not only protagonists (which were rare in early cyberpunk fiction [Cadora 1995, 358]), but also agentic beings that provided a critique of real-world patriarchal domination, despite still adhering to highly gender-normative behaviors.

For Yaszek, the second wave of feminist cyberpunk (from 1990 to 2005) represented an abrupt change in the representational politics of cyberpunk women (35). This is traditionally linked with the rise of much of the cyber-feminist theory in the 1990s that enriched both debates and narrative creations. Haraway's *Cyborg Manifesto* (1985) and the works of other cyber-feminist theorists such as Sadie Plant (1995), Rosi Braidotti (1997) and Katherine Hayles (1999) inspired different reflections on the role of cybernetics with regards to feminist thought, embracing ideas that dislocated previous understandings of women as subjectivities essentially associated with a non-anthropogenic nature. In this view, the link between machinic and female bodies is observed as one communicating two subalternized subjects that liberate or even enhance patriarchal humanism. As Sadie Plant (1995) puts it:

> The machines and the women mimic [men's] humanity, but they never simply become it. They may aspire to be the same as man, but in every effort they become more complex than he has ever been. Cybernetic feminism does not, like many of its predecessors [. . .] seek out for woman a subjectivity, an identity or even a sexuality of her own: there is no subject position and no identity on the other side of the screens. And female sexuality is always in excess of anything that could be called 'her own'. Woman cannot exist 'like man'; neither can the machine. As soon her mimicry earns her equality, she is already something, and somewhere, other than him. A computer which passes the Turing test is always more than a human intelligence; simulation always takes the mimic over the brink. (63)

The cyber-feminist critique is, nonetheless, not homogenous, and the perspectives through which the alliance between female and machinic subjectivities have been explored were already complex in the 1990s. However, all of them embraced a common ethos of liberation from patriarchal control utilizing machinic integration within their bodies.

The 1990s produced a high number of feminist works in which the "Cadiganesque" trend of portraying "reversed-male-cyberpunk-heroines" shifted to a different paradigm, one dominated by women characters in STEM professions. Thus, readers may find women as experts in nanotechnology, data analyst, hackers or even internet magicians in some fantasy/sci-fi worldbuildings (Yaszek 2020, 35). Early feminist debates on cyberpunk cyborgs have historically been divided between two theoretical views, one aiming

to feminize the techno-body (and the technologized space) or exploiting its patriarchal feminization for feminist purposes, and another one based on Donna Haraway's "Cyborg Manifesto" ideas on science, technology and gender, aiming to "androgenize" both bodies and space (Lavigne 2013, 84). The two of them challenge the original masculinist idealizations of cyberpunk worlds. Machinic interfaces mediate questions regarding feminist discourses by presenting technology as a transgressive and definitive tool against patriarchal logics, either through depictions of women in STEM jobs or through representations of technologically enhanced human bodies, such as the protagonists of Marge Piercy's *She, He and It* (1991) and Kathleen Ann Goonan's *Queen City Jazz* (1994), and the proxies in Laura Mixon's *Proxies* (1998). Representations in the 1990s introduced a new sense of cyborg that is not necessarily characterized by its ontological combination of technology and flesh and interacts with the machine in a reactive and disembodied way. These STEM feminist cyborgs employ machines as an externalized body and push women's progressive incorporation into the technoscientific job market.

The feminist cyborg can therefore be understood in two different ways that will later influence solarpunk representations of female cybernetic subjectivities. On the one hand, there is the figure of the the classical "literal" techno-body composed by a mixture of heavy machinery and human flesh. Her symbolic power can be found in the physical communion between organic and inorganic matter that they embody. On the other hand, we may find a "post-cyborg" representation of women in which the union with a machinic apparatus is less self-evident, as it lies in the collaboration between a STEM technician and the machine they operate. Both observe integration with (embodied or disembodied) inorganic organisms as a vital "first step" towards any kind of feminist enunciation. Whereas the former produce a sense of cyborg identity that only operates in allegorical terms, the less self-evident cyborgs reflect a more realist approach toward cyber-feminist politics and ontologies. These "post-cyborg" women present a clearer view of how gender emancipation through technology can be performed in out-of-fiction spaces. Although technically fully organic, their use and knowledge of cybernetic tools (and of how to hack or manipulate them) makes them as connected to the machine as the literal cyborgs.

It must be noted, however, that the feminist undertones of cyberpunk fiction evolved from dealing with concerns related to cisgender female bodies and patriarchal oppression to an increasing interest in queer themes. As Carlen Lavigne (2013) comments, in the 1990s "queer concerns were gaining cultural traction, and their inclusion within feminist cyberpunk's speculative futures is therefore, on one level, easily accounted for. On another level, the challenge of rewriting cyberpunk's hetero paradigms has obviously appealed more to feminist authors" (145). The feminist cyborg body is, therefore, also a queer one, since the deconstruction of the biological body through technology opens the gate to an eventual deconstruction of sexual and gender identity paradigms. On one side,

the virtual space that configures the immaterial cyborg "becomes a zone of possibility in which a multitude of genders *and sexualities* may be explored" (147); on another, the androgyny that characterizes the material cyborg, as explained by Teresa de Lauretis, "is not only beyond gender or ungendered, but also efficient, clean, indestructible and sexless" (qted. in Lavigne 2013, 152). These ideas were expressed in much of 1990s women-authored cyberpunk narratives , "provid[ing] a place where lesbian viewpoints may be safely explored, and queer issues may be advanced within a feminist paradigm (160).[2]

The alliance between cybernetics and (queer) feminism presented in both theory and literature might be, nonetheless, problematic from an environmentalist perspective. Although it can be argued that cyberfeminism managed to cut loose from the ecological binaries that traditionally entangled feminist identities, this cyber-queer entente only operates in the isolated discourse of gender (and by extention, of sexuality and queerness). Beyond that framework, cyberfeminism is problematized by the industrialist dynamics that generate the existence of the machine, ones that also pollute an Earth that seems to be doomed to collapse once humanity depletes all resources. In early works of cyberpunk (both feminist and masculinist) "environmental devastation is common, but environmentalism is not" (Lavigne 2013, 98), and whenever ecological collapse is critically dealt with, it is predominantly portrayed in the form of a dystopian landscape that can be interpreted as a either a warning message or a defeatist statement, as in the cases of Mixon's *Proxies*, or Edith Forbes' *Exit To Reality* (1998) (Lavigne 2013, 112). The cyberfeminist discourse embedded in these narratives becomes seemingly incompatible with a protection of the environment since, for a feminist liberation to be catalyzed, a ferreous techno-industrial and capitalist infrastructure must support human's desire to escape their biological body, sexualities and gender concerns.

This ambiguous relationship between gender and/or queer liberation and climatic defeatism has been reproduced in many contemporary cyberpunk narratives. It has embraced a generally pessimistic attitude towards technology that disconnects from the techno-naivete of cyborg subversions in many cases. In novels addressing environmental dynamics and cyborgian natures—such as Lauren Beukes' *Moxyland* (2008), a novel that may very well belong to what Yaszek (2020) defines as the third wave (from 2005 onwards)—the protagonists manage to problematize and sometimes even subvert techno-patriarchal power. However, both authors equally situate techno-industrial societies as clearly dystopian with regards to the sustainability of a hyper-cybernetized future.[3]

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[2] For the sake of concision, an exploration of queer themes in early cyberpunk fictions has been omitted, but a clear structured analysis can be found in Lavigne's quoted chapter.

[3] I use Beukes' text for the purpose of this analysis but there are many more works of post-cyberpunk fiction with similar themes in a similarly pessimistic manner: i.e., Rosa Montero's Bruna Husky's Trilogy —

In *Moxyland*, readers find two examples of critical representations of gender/queer cyborgs who fall prey to techno-capitalist dynamics in an attempt to subvert them. The clearest example is Kendra, a young girl who enhances her body through nano techonology in order not to suffer any injuries and to better heal from disease. In exchange, she is forced to become "a living bill-board" of the company that carried on her cyborgization (Duncan 2020, 89), and also their property legally speaking (Beukes 2008, 303). This allows the company to eventually euthanize her when it finds out that she has participated in a protest against Cape Town's authoritative use of digital technologies. In this sense, Kendra is an example of the classical cyborg, the one with a machinic body whose concerns, in the novel's case, derive from the (lack of) bodily autonomy that their machinic parts allow her to have. On a different "cyborg" side is Tendeka, a gay cisgender young boy, who keeps entering a metaverse-like space to freely perform his sexuality whilst also calling to action against the political problems of a Cape Town that has seen the rise of a ecocidal neo-apartheid regime[4]. Tendeka is an example of the "post-cyborg" above defined. He is technically organic, but his knowledge and use of cyberspace as both an extension of his identity and a tool for political dissent reflect a cyborg connection as equally symbolic as Kendra's.

Tendeka, however, ends up rejecting his cybernetic idealism and so, his post-cyborg identity—even willingly sacrificing his online relationship with Ashraf, his partner—"essentially nullifying the potential for expressions of queer love" (Andrews 2020, 136), when seeing himself in need to confront the techno-colonial police regime of the physical world. His fate in the novel, nonetheless, still sees some subversion through technology, since, in the end, he films his death—after been intoxicated by a lethal virus dispersed by the police during the same anti-tech riot in which Kendra participates—aiming to upload it to the Internet in an attempt to use cyberspace as a counter-discursive tool that could inspire social change. He wants to transcend and become a mere specter of Cape Town's digital space in order to instigate its citizens to rebel against their technocratic government. Tendeka uses his post-cyborg identity to destroy the very same processes that produce it. The results of that action, however, are unknown as the novel finishes with Toby, the character who filmed it, exiting a room with the Tendeka's tapes, and thus, Beukes does not tell us whether this action actually served any purpose. This ambivalent approach toward the subversive opportunities offer by hypertechnologization is

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Lagrimas en la lluvia (2011), *El peso del corazón* (2015) and *Los tiempos del odio* (2020)—(see Leone 2017), or Nicky Draiden's *The Prey of Gods* (2017) (see Andrews 2020).

4 Beukes depicts a place out of the city, the Rural, an area with "a decimated biosphere without infrastructure or employment that lies beyond the virtual networks of the corporate urban enclave" (Duncan, 87) and that reflects the environmental and colonial violence exercised by capitalist structures outside the more "privileged" sphere of consumers.

representative of a debate that cyberpunk narratives (feminist or not) tend to tackle but never fully solve. High technology is a tool to both control human biopolitics and subvert that very same power that is enforced through technology, but whilst the former is a secure asset, the real possibilities of the later are still subject of debate.

Moxyland is a good precursor of the eco-technological dynamics that will condition solarpunk's attitude toward the feminist representation of the cyborg. Although highly pessimist, since the corporate state seems to be in almost full control of life in Cape Town, the novel makes it clear that the cause of the ecocide is not human but capitalist, anticipating contemporary conversations on the notions of Anthropocene and Capitalocene. According to Duncan,

> Technology's pervasive reach in the narrative is, after all, bound up with post-apartheid financialisation and the concomitant production of surplus humanity in the construction of Cheap Labour on a planetary scale. While the narrative is concerned with the "manipulation of nature," its agent is capital and its socio-ecological binary, not humanity generally. (2020, 89)

As a result, industrial technology is not a concept immediately related to natural destruction, but one that has been employed by the corporate state for that purpose, leading to the conclusion that it can be used to subvert capitalism's own power—advancing ideas later developed by Laboria Cuboniks in the *Xenofeminist Manifesto* (2015)—and create a political alternative in line with liberal and Marxist discourses on equality, multiculturalism and sexual freedom.

Still, cyberpunk and post-cyberpunk, when imagining environmentally critical (and even sustainable) societies, only position them through the open rejection of industrialism. In other words, many cyberpunk fictions recognize that, in terms of earth-human relationships, sustainability and social justice can only be achieved by obliterating the very cybernetical infrastructures constructing the represented society. Virtuality, in this sense, operates "as a form of escapism for characters who wish to literally repress their ecologically damaged and traumatizing background by exchanging toxic materiality with sanitized virtuality" (Herzog 2021, 95). The feminist cyborg (sometimes also a gynoid or android) is then conceptualized as a subject who can only find gender or sexual liberation and self-determination either through the consumerist fantasy of the virtual world, or through the technological enhancements, both produced by a hyperextractive, ecocidal and genocidal system. *Moxyland*'s view of a cyberpunk society does not simply reflect on the idea that the corporate system co-opts feminist cyborgs, forcing to accept the immoral conditions of an unjust technocratic government, but also implies that gender and queer subversions are limited in time and space, since the system will eventually fall in the hands of a highly disrupted planet. In line with the ideas of degrowth economists such as Giorgios Kallis (2018), capitalism is a system based on an eternal-growth drive which cannot comply with the limited resources of our planet (or any other material

space), and thus, the cyberpunk space (as a hypercapitalist territory), although miraculously alive thanks to the magic of fiction, is doomed to collapse.

2. FROM CYBORG DEFEATISM TO CYBORG OPTIMISM

From the perspective of the environmental humanities, solarpunk literature can be observed as an optimistic reaction to post-cyberpunk dystopic landscapes, as it is a sub-genre primarily focused on the depiction of technologically sustainable spaces. Although solarpunk has no homogenous sense of aesthetics (sometimes authors depict post-cyberpunk societies, sometimes post-apocalyptic ones and sometimes even locations based on steampunk visuals), the genre almost always portrays futures in which the ecological issues of post-cyberpunk have been somehow solved. There are dozens of solarpunk stories conveying this idea. For example, non-binary author T.X Watson's "The Boston Hearth Project," from the collection *Sunvault* (2017), situates the narrative in a cyberfuturistic, climate-change-affected Boston in which a couple of cyborg underdogs infiltrate a self-sustainable state-of-the-art residential building for a corporate elite and liberate it for the working class living around it, forcing the US government to hand these high-tech building to activists fearing "another hostile takeover" (24). Although a great quantity of solarpunk stories present greenified cyberpunk aesthetics, some others show a more post-collapse state of technology, which, nonetheless, maintains the idea of human adaptation to planetary dynamics through industrial technology. In M. Lopes da Silva's "Cable Town Delivery," from the collection *Glass and Gardens: Solarpunk Summers* (2018), the city through which the characters move is described as

> a city built on the cavernous carcasses of several other cities. Odd structures were improvised along the planes and sides of collapsed skyscrapers, tenaciously clinging to the concrete skin like brilliant particolored mold. . . . Above all the buildings the endless rows of cable cars spanned, creating what Lyka called a "town of treehouses." (225)

Solarpunk narratives tend to represent technological spaces constructed either over cyberpunk cities or their ruins, but almost always with a positive emphasis on the possibilities of sustainable technologies.

This construction of the territory is also represented in solarpunk female (but also feminist) cyborgs. Solarpunk fiction does not only convey the most representative qualities of their cyberpunk foremothers, but also incorporates contemporary reflections on posthumanism and ecological theory to its ontologies. In this sense, the evolution of Harawayan current of thought seems to run parallel with cyberpunk's transformation into solarpunk. If the guide to read cyborgs in cyberpunk narratives has always been *The Cyborg Manifesto*, solarpunk identities can clearly be addressed through the eyes of Haraway's (2016) post-compost identities (97) as exposed in *Staying with the Trouble*. In this

now seminal text of posthumanism,[5] she defines a new sense of subjectivity that might theoretically help restoring planetary biotic self-regulation: that of the holobiont (or symchtonic/sympoietic being). This notion implies constructing a "robust biological-cultural-political-technological recuperation and recomposition" (101) of the necessary interspecies relationships that allow survivance in the natural world, which also include the human world. Haraway expands the 1990s cyberfeminist notion of the cyborg that entangled the female body with the machine as a subversive feminist ontology. In different ways, solarpunk takes the idea of ecologically connecting with the non-human bioticly (through connection with nonhuman life) or abioticly (through high or low non-organic tech), presenting a new sense of cyborg that fits Haraway's conveniently proposed slogan of "Cyborgs for Earthly Survival!" (102). Haraway's posthuman "cyborg" is, therefore, different from the ones inspired by cyberpunk feminism. Its sense of connection with technology is not dependent on an industrial infrastructure (green or not), it does not create a natural alliance between gender subversion and technology and it expands human/non-human collaboration outside the field of cybernetics. Nonetheless, these subjectivities (composites of different organic and/or inorganic holobionts) are still so in relational ways as they collaborate with other intelligences, mix with them and, through their interactions, aim to liberate from the technoscientific capitalism that enforces power over them.

This new model of feminist (bio)cyborgs is constructed over the material cyborg developed in cyberpunk narratives, abandoning transhuman reflections on cyberspace that characterized much of cyberpunk through its history. Although in some stories (i.e., the above-mentioned story by T.X. Watson) there are some technical virtualizations or basic uses of the Internet, the solarpunk virtual world is almost inexistent, and the alliances between humans, non-humans and technology always operate on the physical world. This is seemingly a logical approach, as solarpunk narratives tend to be critical with the use of excessive-energy-consuming infrastructures and cyberspaces require great amounts of energy to be operative. Its abandonment is also derived from a focus based on imagining green infrastructures specifically designed to help with material concerns. Commenting on possible solarpunk infrastructures, solarpunk author and theorist Andrew Danna Hudson (2015) states that

> I like the idea of focusing on large-scale infrastructure projects that will provide value for communities into the long term. A seed bank; a hyper-dense vertical permaculture farm engineered for carbon fixing; a massive, low-maintenance desalination system; a space elevator. These projects could themselves be the organizing principle around which unique solarpunk communities are organized. (n.p.)

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[5] Even though Haraway rejects any identification with this category (2016, 101)

Solarpunk narratives assume the inefficiency of cyber-territorial subversions that had previously been advanced by post-cyberpunk novels such as *Moxyland* and prefer to focus on those which affect humans collectively. The virtual world, as seen in post-cyberpunk literature, often provides a sense of individualistic dissent against the system (regarding gender or queer identity, for instance), but is incapable of enabling full communities precisely because of its consumerist-oriented ethos.[6]

2.1 SOLARPUNK EMBODIED CYBORGS

Since there's no virtual simulation in solarpunk narratives, posthuman cyborg models are mostly presented in a material way. Their physicality, nonetheless, has not been homogenously represented through history. In general, the "literal cyborg"—the one envisioned as a subject integrating non-human technological components in their own body—has been scarcely represented either by male, female or non-binary authors. Since solarpunk's concerns are predominantly locational, subjectivities have tended to remain corporally human, showing machine-nonhuman integrations through human-environment relations following the post-cyborg STEM-like model of second-wave feminist cyberpunk. There are nonetheless a few exceptions to this trend.

In "Solar Child" (2017), Camille Meyers sets her narrative in a late-Anthropocene scenario in which humanity has managed to develop different biotechnologies that allow our species to industrially thrive and survive an anthropogenic climate change (188). Essentially, sectors with a high energy demand, like transportation or food production, are now covered by solar energy production (185, 188). This future is, however, far from idyllic, as the human species itself is still biologically vulnerable to the dry, hot and sunny climate of this future Earth. The first few lines of the story show Jamie, a biotechnologist, arriving at a research station carrying out genetic experiments on humans in order to make them more biologically attuned with the planet's transformed climate. Jamie is introduced to Ella, "the first photosapiens," a plant-girl symbiont grown in a vat and capable of photosynthesis. Fernanda, the chief director of the office, describes her in the following way:

> The project was modelled after the relationship between corals and sea anemones with photosynthetic zooxanthellae. The host animal, photosapiens or solarsaur, for example, provide shelter, transportation and protection, for their photosynthesizing partner. In return, the little green cells gift a bit of glucose, food essentially, straight into the bloodstream of their host.

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[6] There is an interesting meta-irony concerning solarpunk and cyberspace, since not only the genre and political movement emerged on the Internet, but also promote ideas of open source/open access knowledge (see Gregory Scheckler's "Grow, Give, Repeat" (2018) in which the young protagonist makes her sustainable-food infrastructure designs publicly available online). The movement itself has also been defined as "open source" (Hudson, 2015), denoting its strong structural connections with our contemporary cyberspace.

> Ella still needs to eat, but not as much as normal humans. Of course, she also needs to spend plenty of time in sunshine. (189)

Ella may be categorized as a sympoietic being, since her body is in itself different biologies (vegetal and human holobiontic natures) coexisting and developing mutual need relationships that allow her to better resist current atmospheric conditions. Contrasting with cyberpunk techno-industrial embodied cyborgs, Ella has no heavy machinery incorporated in her body. This machinic part has been substituted by plant cells that required an industrial infrastructure to be made (she is, after all, conceived in a vat). She is constructed imitating the hybrid nature of the cyberpunk literal cyborg, as she represents a symbolic alliance with a non-human otherness that brings hope for a better future of "human" life on Earth.

Ella, and her brothers and sisters in development, are kept secret from the public for fear of a terrorist group of revolutionaries called "The Revelationers" killing them. As the demonstrators of *Moxyland*, they see technological development as the cause of the socio-environmental crisis and have bombed other stations in the past. The technophobic argument of cyberpunk's approach to techno-scientific progress embodied by the Revelationers is contested by Jamie, who appeals to an alleged need to learn to live with our own biological nature: "The human race does not need revolution. We have tried that so many times, and here we are. No, what we need is a new way of living with ourselves, a way to adapt to the world we have created. We need to evolve. And evolution takes love" (191). Jamie's defense of evolution over revolution (problematically binarized) calls for a sense of technological thought escaping the political dynamics that condition the approach to scientific research in the narrative. Thus, high technology is observed in very optimistic terms, since it seems to be the only tool capable of ensuring (post)humanity's survival during the Anthropocene (in contrast to a "return to nature" perspective).

Although "Solar Child's" primary concern when depicting its bio-cyborgs[7] is the universalist issue of species survivability, Ella's subjectivity as a vat posthuman child also opens the door for feminist readings. In this context, xenofeminist ideas on antinaturalism and the role of technology when dealing with reproduction are worth mentioning. Xenofeminism's much echoed slogan, "if nature is unjust, change nature" (Laboria Cuboniks 2015), bears a special relationship in debates over liberating women's allegedly biological burden over gestation. In the book *Xenofeminism* (2015), Helen Hester (member of Laboria Cuboniks) criticizes traditional ecofeminists mantras attacking

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[7] Since solar children are technically not cyborgs (they are not half machine and half human creatures), I believe the term "bio-cyborg" describes them more accurately. Vegetal integration with the human body takes the role that machines bear in much of cyberpunk, showing an evolution of the bases that conform the cyborg paradigm that transforms steel and gears into plant cells.

technologically assisted reproduction, in which bioengineers are viewed as constructing the child as if it were a machine, made from isolated component parts. In this version of the reproductive process, human beings are in possession of a far greater degree of direct agency and control; ergo, the process loses its magic and is no longer experienced as "creative, productive and spontaneous." (16)

In contrast, xenofeminist anti-naturalist proposals embrace the idea of employing scientific progress under a gender liberatory perspective, and thus "rather than cede this territory to conservative or corporate interests—which have been angling for the enclosure of biomedically manipulable bodies for several decades—we must reframe the evident (if partial) changeability of nature as a space for emancipatory politics" (19). From a feminist perspective, a purely technological reproduction of human subjects that leaves gestation in the hands of a machine prevents much of the unwelcome suffering that impregnatable individuals might experience during and after a pregnancy.

This techno-feminist alliance is specifically addressed in Meyers' story when the character of Fernanda asks Jamie to adopt one of "the solar children" they have created. The main reason why she wants to take one of them is adoption already reflects her traumatic experiences. As she comments, "in my early thirties, my husband and I tried to start a family. Even with all the medical expertise money could buy, I suffered three miscarriages. One so far along I counted fingers and toes as the bloody fetus grew cold in my cupped palms . . . Finally I carried a baby to term. My son lived two months before his lungs collapsed" (191). Solar children like Ella present a solution that alienates and alleviates physical but also psychological damages that the gestating subject might endure. This not only makes Ella and the other solar children bio-cyborgs who ensure a future for a (post)human world, but also positions their non-humanly-originated existence in feminist terms. Photosapiens' technologically mediated biology becomes ontologically xenofeminist and thus, recovers early cyberpunk's idealization of machines (which are now shaped as micro-plant holobionts) as a potential ally in the fight for a bodily appropriation of the female (or, in this specific case, impregnatable) body.[8]

"Solar Child" is a *rara avis* with regards to the most common depictions of posthuman cyborgs in solarpunk short stories. There are other representations of them, although less developed and openly engaging with feminist proposals. For example, female authors like Natsumi Tanaka in "A life with Cibi" (2021) or Meyari McFarland in "Old Man's Sea" (2021), portray animalistic—yet very human in behavior and language—biocyborgs blurring the boundaries between human and non-human animal communication. Other stories, like the already-mentioned "Boston Hearth Project," present minor characters in line with the Cadiganesque's idea of cyborg heroine characteristic of early

[8] Complementary to this idea, there is the fact that biology is a STEM field highly associated with women. This reinforces the feminist undertones developed in the story, as it suggests that biology is the techno-scientific field through which feminist liberation may be eventually achieved.

cyberpunk. Juniper, the female cyborg represented in the story, is only shown as an action figure, yet almost no context of her identity (or even a voice) is given to her. Meyers' representation of the bio-cyborg is, in this sense, highly valuable, as it presents a symbolic link between the material, more self-evident depiction of the cyborg that characterized cyberpunk narratives and the posthumanist ethos of solarpunk themes.

2.2 SOLARPUNK DISSEMBODIED CYBORGS

Solarpunk authors have prioritized STEM-like representations of the cyborgs introduced during the second feminist wave of cyberpunk. Not only many stories present non-cishetero masculine bodies as college educated characters (see i.e., Fernanda in "Solar Child"), but also in many cases the narrative forces the character to employ their scientific knowledge to operate different machines with proficiency in order to solve a particular problem posed by the author, making some sort of posthuman communion. Examples of this model can be found in many collections, but there is one that makes a specific emphasis in visualizing these subjectivities: *The Weight of Light* (Eschrich and Miller 2019)[9]. Although not marketed as a solarpunk collection, the compendium features stories by important figures of the literary movement, such as Andrew Danna Hudson, who has participated in previous collections, or Brenda Cooper, author of the solarpunk novel series *Project Earth* (composed of *Wilders* [2017] and *Keepers* [2018]) and it directly engages with some of solarpunk political ethos of techno-optimism, development of solar-powered imaginaries and liberal politics.

This collection differs from previous ones in that its texts aim to portray both scientifically accurate energetic solutions to overcome our contemporary petro-chemical dependence, and the dilemmas that will feature these potentially immediate solar futures. The stories narrate answers to questions such as:

> Where and how will solar energy systems be deployed, e.g., on buildings or in the desert? What impacts will they have on those spaces and how they are used? Will solar energy disrupt or reinforce existing energy technologies and markets? Will the resulting power plants be ugly or beautiful? Who will own them? Who will regulate them? What kinds of jobs will they create, and for whom? How will solar systems be integrated into broader systems of power, transportation, manufacturing, and computing, not to mention food and water systems? How will they shape global patterns of security, power, and wealth? (Eschrich and Miller 2019, 18)

The material viability of the ideas presented in the four stories is explained after every narrative, with texts in which different scientists and scholars analyze the stories and explain the potential interest (and problems) that developing a specific solar infrastructure might entail for different communities, particularly those that might be most negatively affected during the transition from fossil fuels to renewable energies.

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[9] A similar project coming from the same editors was published in 2021: *Cities of Light*.

Whereas the collection is focused on energy debates, the stories also feature narratives with much interest from a (purely) feminist perspective, as they tend to present female protagonists (and characters in general) expressing their concerns with issues such as working conditions or motherhood in this possible solarpunk future. "For the Snake of Power," by Brenda Cooper, is relevant to the analysis of solarpunk post-cyborg identities, as it features a renovated approach to this figure. The story follows Rosa, a worker of the local energy company providing solar power to the city of Phoenix. She discovers the energy production meant to power working-class districts is being sold to some of the northern cities, enriching the state's treasury at the expense of lowering the living conditions of Phoenix's citizens, who are increasingly dying due to the hot weather. Rosa, with the aid of a (feminized) AI, HANNA, and her former mentor, Callie, exposes these treaties and organizes a protest against Arizona's governor that culminates with the state government canceling the energy sellout when realizing that the electric lines to Chicago have been sabotaged.

Rosa's relationship with HANNA illustrates an interesting revision of the post-cyborg archetype of 1990s cyberpunk. Rosa is a maintenance technician with university training (47), who, along with HANNA, is in charge of repairing and arranging the necessary logistic operations of the "solar snake" infrastructure. HANNA, in principle, operates as a machinic helper who compensates the psychical limitations of a human body with regards, for instance, to the obtention of immediate data when repairing a solar panel (43–44). She is, nonetheless, not just a technical helper, but a machinic subject that sometimes shows a conscience of her own. For instance, even though she "wasn't responsible for maintenance on [Rosa]," she informs her when she is too tired to work (44). Although technically at service of the company, HANNA is depicted ambiguously, and Rosa is sometimes surprised that she is following her orders, even when she feels she is not supposed to have access to some of the information that HANNA provides her (44). Thanks to HANNA, Rosa manages to get all the documentation regarding the energy transfer to the northern cities (49), and, in the end, it is HANNA, trough Callie's intervention, who blocks "the [energy] lines to Chicago." HANNA's actions in the cybernetic world (the use of the system's infrastructure in its own prejudice) and Rosa's actions in the social sphere organizing the protest can only be successful in combination. Information and sabotage could have only been carried out by the machine but the successful protest resulting from it requires an embodied subjectivity to be organized (and to participate in).

Resistance to administrative corruption is then performed in both superstructural and infrastructural planes by two subjectivities (Rosa and HANNA), who are nonetheless interconnected in ways that make them one individual. HANNA may be considered a disembodied limb—and yet a conscious one—that acts in the same way STEM post-cyborgs operate in the above-mentioned narratives by Marge Piercy and Kathleen Ann Goonan. HANNA tends to carry out every operation Rosa asks her to do. The results of their

mechanic-organic alliance, however, may complicatedly be referred as "feminist" in its purpose, but it reflects a clear feminist sense of empowerment. Rosa and HANNA save the city from power shortages not in an explicit attempt to help, enact or liberate subjectivities from a patriarchal system, but from a capitalist, class-hierarchical one (47–49), and yet, the fact that the liberator protagonist of the story is represented by a woman reproduces uses of feminine subjectivities replacing narrative places traditionally deserved to men. This is easily observed when looking at how structures of power in the energy company work, and who represents power inside of them: Rosa's boss, Christine, is a woman; Callie, Rosa's former master is also a woman; and as far as the story tells readers, there seems to be no man other than the governor in a higher power position. Women seem to be running the public company in charge of the distribution of energy for working and middle classes in the city (47). From this perspective, the company also reflects feminist anxieties, as it oversees the wellbeing of Phoenix's citizens with less resources, maximizing to an urban level traditional roles enforced on women. Rosa and HANNA's actions obey an apparently not-explicitly-feminist purpose and yet, their actions are tainted by ideas of representation and gender roles conditioned by the patriarchal structure that they try to confront.

3. CONCLUSIONS

Although, not self-evidently concerned with feminist philosophical messages, solarpunk offers the possibility of reading new (and yet very old) types of feminist human/non-human bodies. If late post-cyberpunk texts' such as Beukes' *Moxyland* depict a subversively ambiguous representation of the cyborg (ultimately tending towards pessimism), solarpunk's take on the cyborg figure recovers its original optimism and attempts to apply it to the ecological (but still feminist) concerns of the genre. Female authors are producing stories that rewrite the main models of cyborgs generated during the development of the cyberpunk movement, either portraying posthuman bio-cyborgs, such as the photosapiens of "Solar Child," or through the depiction of alliances between female and machinic AIs that enact historical concerns debated in the history of feminism(s), as in the case of "For the Snake of Power." In both cases, nonetheless, the environmental preoccupations that haunt and nurture solarpunk narratives are also embedded in these representations, displaying cyborgs that are no longer interested in individual subversions but in developing actions that might benefit societies as a whole and help them survive the Anthropocene. In this sense, post-cyberpunk's techno-human defeatism is transformed, in these narratives, into an optimistic reaction in which bio-cyborg or post-cyborg natures embody subjectivities that overcome capitalism's elitist and ecocidal power relations. The new-yet-very-old solarpunk "cyborgs" presented by Cooper and Meyers, open the door for less fatalistic understandings of machinic-human interactions that

might help us face the incoming era of climate (and so social and economic) crisis that we are headed to.

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