

This is the **accepted version** of the book part:

Torrents, Alba; Ballús Santacana, Andreu. «Anime's thoughts on artificial minds and gendered bodies : from transhumanism to transindividuality». A: Gender in AI and Robotics: The Gender Challenges from Interdisciplinary Perspective. 2023, p. 139-157. 18 pag. Springer.

This version is available at <https://ddd.uab.cat/record/307546>

under the terms of the  ^{IN} COPYRIGHT license

Anime's thoughts on artificial minds and gendered bodies: from transhumanism to transindividuality

Introduction.

The complex fictions appearing in mass-consumption media such as films, video games, comic books and genre literature aren't just entertainment. They often are themselves a medium of reflection and creation where new ideas are born and those already alive are tested and transformed. When that happens, the technical specificities of a certain medium (or of a particular *media ecology*) can have a crucial role in determining the shape of these intellectual outcomes, which bear the mark of the place where they were produced and disseminated.

In this chapter, we take a look at the ways one specific medial milieu, that of manga, anime and their reciprocal influences and adaptations, has contributed to the ongoing discussions about transhumanism, posthumanism and the relationships between AI, embodiment, gender, and the limits of human identity.

We focus on a minimal corpus consisting of four anime franchises: Ghost in the Shell (GitS), Serial Experiments Lain (SEL), Akira, and Evangelion¹. All of them are very influential works, recognised by critics and fans alike, and have had an enduring influence on contemporary science fiction inside and outside their immediate medial and cultural spheres. Furthermore, all of them are directly concerned not only with broader transhumanist and posthumanist ideas, but specifically with the roles that AI could play in a technological overcoming (or abandonment) of classical human identity. GitS is treated in special detail because, in our opinion, it presents the clearest instance of a questioning of the transhumanist ideals, as is NGE, which we consider a sort of contramodel of the same ideals, and an example of the notion of *posthuman* being used to dismantle traditional humanist/transhumanist dichotomies.

Mapping the t/p field.

The terms "transhumanism", "posthuman" and "posthumanism" have become increasingly pervasive in cultural and philosophical discussion. Ferrando (2013) traces the beginnings of their use in the contemporary sense to the XX century fifties and the seventies respectively,

¹ We will refer to both the original series (*Neon Genesis Evangelion*, 1995-1996) and the anime film *The end of Evangelion* (1997).

although the philosophical roots of the ideas they represent can be dug for as far back as, at least, Nietzsche. However, it is in the last three decades that they have become ubiquitous in the parlance of several disciplines. Despite that, or maybe because of it, the nuances of their meanings, the relationship between the two, and that between the pair and their obvious counterpart and antecedent, “humanism”, can be difficult to disentangle.

Fusco and Broncano (2020) have noted that the word “transhuman” tends to appear in connection to both descriptive and normative discussions on the possibility of technologically enhancing either human individuals and groups, or the human species as a whole. The explored potentials for change and evolution are usually circumscribed within what Ferrando (2013) calls “the possibilities inscribed within its possible biological and technological evolutions”². “Posthumanism”, on the other hand, tends to appear in broader philosophical discussions of the problems and limits of its counterpart, the *humanist* tradition. Paradoxically, as Broncano and Fusco also note, many strands of posthumanism could at the same time be considered continuations of a late, post-romantic and critical version of the humanist project, which would include authors like Sartre, Benjamin and Hanna Arendt³. However, Ferrando (2013) makes a nuanced distinction between *post-humanism*, i.e. the opposition to classical humanist philosophies because of its inherent anthropocentrism and androcentrism that is a core component of posthumanism, and *posthumanism* itself, which focuses on exploring the notion of the posthuman and on dismantling the traditional dichotomies associated with the role of humanity in nature (natural/artificial, natural/cultural, biological/technological, and even old/new). In Ferrando’s words:

Posthumanism can be seen as a post-exclusivism: an empirical philosophy of mediation which offers a reconciliation of existence in its broadest significations. Posthumanism does not employ any frontal dualism or antithesis, demystifying any ontological polarization through the postmodern practice of deconstruction....[It] can also be seen as a post-exceptionalism. It implies an assimilation of the “dissolution of the new,” which Gianni Vattimo identified as a specific trait of the postmodern. In order to postulate the “new,” the center of the discourse has to be located, so that the question “New to what?” shall be answered. (Ferrando, 2013, p. 29)

² Broncano and Fusco point to the works of Gunther Anders on the idea of human obsolescence as a counterpoint to this tendency. Anders’ proposal, which while being explicitly “humanist” has been connected with the origins of transhumanism (Ballesteros, 2020), focuses on the *moral* enhancement of humanity.

³ The authors consider the publication of Marx’s *Economic and Philosophic Manuscripts of 1844* in 1932 a turning point in the history of the humanist tradition, marking the transition from a romantic, naive humanism to a critical one.

As we can see, where Fusco and Broncano see a fundamental continuity between a late version of humanism and posthumanism, Ferrando introduces *postmodernism* as a crucial mediator. The connection between postmodernism (particularly, *feminist and antispecist* strands of postmodernism) and posthumanism is indeed also recognised by Broncano and Fusco, who make a further distinction between a derridean tradition, represented between others by Judith Butler, and a deleuzean line of thinking, instantiated in the example of Rossi Braidotti. However, Ferrando gives a more determining role to these influences by making them part of what differentiates transhumanism from posthumanism: transhumanism, in continuity with (older, romantic) humanism, doesn't engage with the critics of classical philosophical polarities, and as a result it remains a modified form of humanism (albeit an "ultra-" one).

The emphasis on notions such as rationality, progress and optimism is in line with the fact that, philosophically, transhumanism roots itself in the Enlightenment, and so it does not expropriate rational humanism. By taking humanism further, transhumanism can be defined as "ultra-humanism."... This theoretical location weakens the transhumanist reflection... For these reasons, although offering inspiring views on the ongoing interaction between the biological and the technological realm, transhumanism is rooted within traditions of thought which pose unredeemable restrictions to its perspectives. Its reliance on technology and science should be investigated from a broader angle; a less centralized and more integrated approach would deeply enrich the debate. (Ferrando, 2013, p. 27)

To make the relationship between the whole transhumanism/posthumanism complex and technology more complex, some of the most emblematic images of a possible overcoming of human limitations, the idea of "uploading" human minds onto a computer, has been variously classified as typically transhuman *and* typically posthuman⁴. However, this can be clarified by noting the factors that may affect its classification. Confronting an image or fiction of "mind uploading", we can ask the following questions:

- a) Is the *continuous identity* of the uploaded mind, preserving at least some human traits, made salient, or is the transition taken as an occasion to question assumptions on the limits of identity?

⁴ This is precisely what happens with Broncano and Fusco, who take it as characteristic of the posthuman approach, and Ferrando, who mentions it as part of the transhumanist imaginary.

- b) Does technology appear *in contrast* with biological life, or is the pair technology/life problematized?

These questions, which will later become relevant in the analysis of our corpus, mark the difference between a typically transhumanist conception of mind-uploading (the one corresponding with the italicized part of the question) and a typically posthumanist one. At the same time, they show that even if it is possible to make clear conceptual distinctions between transhumanist and posthumanist ideas, it is sometimes more difficult to differentiate between the two when considering images and narratives. In some instances, then, it may be preferable to take this complex of ideas as a somewhat continuous but polarized field (what we referred to in the title to this section as the *t/p* (trans-/ post- *humanist*) *field*). In one pole we would find images which imply an outdated, naive assumption of human exceptionalism and classic dichotomies. In the other pole, we would find images and narratives forcing us to confront and problematise these very assumptions. In practice, most items can only be (subjectively!) situated in between these two extremes, but it is sometimes possible to make sufficiently clear dimensional comparisons.

Sex, gender and the t/p field.

Matters related to sex and gender have always been an important part of transhumanist and posthumanist discussions. In part, this is due to the fact that *t/p* narratives naturally provide an escapeway from the implicit universalisation of masculinity typical of humanist views. In addition to this, specifically feminist proposals such as Haraway's *Cyborg manifesto* (1991, pp. 149-182) have been fundamental in defining the conceptualization of technology in posthumanist discussions. Similarly, debates around the possibility of transforming one's body in ways that subvert both gender norms and certain discourses about sex have contributed to a widening of the *t/p* field, from Butler's groundbreaking discussions about the discursivity and performativity of sex (Butler, 1993) to the New Materialist's critiques of the downplaying of matter in feminist posthumanist discourses (Barad, 2003).

These discussions are full of nuances that would be impossible to reproduce here. However, focusing on the possibilities that transhumanist and (specially) posthumanist ideas offer with regard to the feminist cause, we can sum them up in two main options, one of which presents somewhere in between two notably different versions.

Option a1 (transhuman-wise version): *t/p is good, because it helps us conceive a (future) overcoming of the limits of gender and sex (which are objectively real).*

Option a2 (posthuman-wise version): *t/p is good, because it helps us conceive a (theoretical) overcoming of the (discursively imposed) limits of gender and sex.*

Option b: (independently of their nature,) gender and sex are part of what defines most human identities, and the idea of “overcoming” them may often be based on a misogynistic rejection of traits traditionally identified as feminine.

We can see *option a* as spreading along the *t/p* dimension mentioned in the previous section: most versions of it accept some kind of constructivism with regards to gender, but their connection to views on the status of “biological” sex and its relationship with gender varies. However, the main opposition is not that between the ideal types *a1* and *a2*, but between any version of *option a* and *option b*, i. e. between those who consider the possibility of overcoming sex/gender inherently positive, and those who are suspicious that such a goal may be tainted by androcentric or misogynistic assumptions.

Far from being merely theoretical positions about fictions and images of the future, these positions have direct political implications inasmuch as they naturally relate with the matter of the status of trans people. On the one hand, any position based on a traditional, dichotomic and immobilist view of sex implies a denial of trans experience. Even by recognising the possibility of *overcoming* one’s assigned sex, and in one sense validating the use of sex-change technologies, they reinforce the idea that sex has always been *naturally* binary and independent of one’s experience, feelings or desires. This can happen both with transhuman-wise versions of *option a* and with some versions of *option b*. On the other hand, some explicitly posthumanist versions of *option a* can lead to an unfair dismissal of the factic, lived character of both sex and gender, by making them appear like mere theoretical categories.

One example of these politically charged discussions we find, for instance, in recent Federici’s (2020) remarks on the *capital’s cartesian dream*. Federici uses the term to refer to the ways the idea of reconstructing and enhancing the human body, assumed as liberating by many feminists and queer theorists (and crucial to the life projects of many trans people), may in many ways function towards in a capitalistic process of reduction of embodied human lives into abstract workforce.

Born this way: sci-fi and feminist t/p-humanism

This relevance of transhumanist and posthumanist fictions, images and narratives to politics, activism and lived identities is, of course, not exceptional. Narrative fiction in general and sci-fi in particular have always functioned as a kind of laboratory of scientific, political and philosophical ideas. As thinkers as Haraway and Braidotti have noticed, the construction of fictional worlds offers an almost unequalled resource for exploring new images of the world. This often means not only imagining new situations, but even escaping what Bukatman (1993) calls *hegemonic ontological schemes*. What would be impossible to think before a certain narrative becomes thinkable (and sometimes doable) through it. From the inception of the genre with seminal works such as Mary Shelley's *Frankenstein*, the language and tropes of science fiction have tended to combine a high degree of reflexivity and a prone orientation to social critique, which allows them to subvert more institutionalized ways of narrating.

This has made science fiction very important for culture-theoretical and philosophical movements like postmodernism and posthumanism. It may even be said that sci-fi has been the true homeland of many transhumanist ideas, which appeared on paper or onscreen a lot before being accepted as part of "serious discussions". This is clearly the case with many issues linked to IA and to the possible ways humanity is going to relate to it and/or be transformed by it. In Bukatman words,

Within the metaphors and fictions of postmodern discourse, much is at stake, as electronic technology seems to rise, to pose a set of crucial ontological questions regarding the status and power of the human. It has fallen to science fiction to repeatedly narrate a new subject that can somehow directly interface with -and master- the cybernetic technologies of the Information Age. (Bukatman, 1993, p. 2).

Shortly after that, Bukatman advances an interesting attempt to explain why genderedness, sexuatedness and the possibility of changing one's relation to sex/gender tend to be prominent in sci-fi narratives: in his view, they always imply not only a certain degree of poetic figuration of our social relationships, but also a degree of *cognitive distortion* of our relationships both with others and with ourselves, and very particularly with our body, its capacities and its limits (1993, p. 11).

(Manga)anime as a thinking device

As we have seen, one of the most recognisable traits of posthumanism is its tendency to oppose every form of human exceptionalism. Therefore, it has allied with advances in the cognitive sciences in order to dispute such settled knowledge as the notion that thinking is, at least on some crucial levels, *mostly a human thing*, and even the very idea that one can easily distinguish what is human from what is not. Hand in hand with sci-fi, it problematizes machine thinking, but also all kinds of biological thinking, as something lacking any difference in nature with human thought, and sometimes inextricably linked to it. This means going beyond the two categories that comprise most classical sci-fi narratives about artificial cognition: that of the technological instrument capable of expanding human thinking *by enhancing one of their already existing traits*, and that of the artificial being endowed with a full blown mind... which happens to be *fundamentally analogous* to a human psyche.

Therefore, we find these old ways of conceiving artificial thought not only examples of the kind of fictions that would be uninteresting to our analysis, but also inadequate methodological tools to employ in it. Instead, we will be using Torrent's notion of "thinking devices" to explore the ways in which the material technicality of anime (and, to a lesser extent, of manga) bears on the conceptual elaboration of trans- and posthuman ideas and images in the works we analyze. In Torrents words,

It is supposed to mean both "devices for thinking" and "devices that think," something halfway between an independent machine and a tool or utensil. One of the reasons I like to talk about thinking devices is because I believe that thinking is first and foremost a complex relationship between entities, and that sometimes deciding where to place the agency (i.e., the *who is thinking*) is not so simple.... Cultural products, especially artistic ones, are especially suitable to be interpreted as thinking devices. Not only do they have the ability to engage agents and information systems in mutual relationships, but they also have critical potential, that is, they have the ability to change the ways we engage with the world in a meaningful way... When we talk about thinking devices we refer to processes in which the production of meaning is distributed and dynamic: meaning is something that happens during the interaction between the viewer and the device, not a fixed message that is transmitted. (Torrents, 2017, p. 84; our translation)

We are aware that many of the advantages of this methodology as compared to a traditional textual analysis (i. e., not assuming that the text acts as a mere "vehicle" for meaning, acknowledging the dynamic role of multiple agencies in the production of meaning) are at least

partially shared by other contemporary approaches. However we believe it is uniquely appropriate in that it also allows us to avoid any traces of unwarranted individualism in our approximation to the meaning-producing mechanisms of objects which are at, at the same time, cultural *and* technical.

The interaction between any spectators and the technical object that is anime constitutes a process of collective individuation which traverses different levels of reality: the physical, the biological, the psychic and the social. To locate the agency of the thinking which produces the elaborations we will explore, we must keep in mind that this individuation, in a sense, begins even before the spectator confronts a specific work. It is an act of distributed cognition depending on a progressive transduction of structures between the animation technologies, genre tropes and conventions and social and psychological realities, occupying a span of time that also has to be taken into account.

Our animetic body

We have chosen the works that compose our corpus with the intention of showing how anime (in its relation of mutual adaptation with manga) has participated in the elaboration of concepts, images and narratives that help us think about the challenges and possibilities IA and other advanced technologies present to humanity.

In all of them, but in very different ways, technology appears as something of a mediator between subjectivity and coporality. In fact, underscoring the importance of embodiment as a crucial factor in the relationship between technology and human identity may be in itself one of the fundamental contributions of anime. However, it takes two substantially different forms.

GitS and SEL startpoint is what we could call a *software-centered* perspective. In both fictions, embodiment (or at least *traditional, non digitally mediated* embodiment) appears as something that can in principle be transcended, and an emphasis is put on the relative independence of consciousness and body. Even if problematizing them, those two works are somewhat near typical transhumanist images of mind-uploading, and both of them include disembodied intelligences as main characters (although only the one in GitS, the Puppet Master, is properly speaking an AI).

Evangelion and Akira offer a counterpoint to these works and dialogue with them from what we could call, in contrast, a *hardware-centered* model. In a very posthuman fashion, they question the limits between biology and technology and between consciousness and body, partly by introducing reflections on the relationship between embodiment and temporality. Again,

only in Evangelion do we find what is supposed to be an AI (although, as is characteristic of the series, it turns out to be otherwise). However, all of them contribute powerful concepts and images that help us reflect on what the emergence of AI and the progressive blurring of the limits between human and machine thinking may mean for all of us.

Is the one in the Shell a *human* ghost?

As we have already pointed out, one of the crucial questions we can ask any version of the mind-uploading fiction in order to ascertain where it is placed in the t/p field is the question about *continuity*. Is humanity transformed into something entirely else by abandoning the human body, or are the differences between the two terms of the transformation conceived as matters of degree? In the case of GitS and SEL, this question is poised both directly in the story and indirectly, through an exploration of the temporal aspect of embodiment.

Despite the fact that the relationships between body and technology, as well as between humanity and technology, are presented in these anime in a complicated manner, we can see in both of them a common tendency to differentiate conceptually between biological bodies and their technological substitutions or extensions. Inside this division, the biological body is associated with the past: it is in the flesh that the individual subject's memory is recorded. This body-as-memory-of-the-past is also a body that is presented as always already given, a body conceived as a product: the biological body represents what has already happened and cannot be changed.

This link between history and the biological body (and, more specifically, human flesh) is clearest in GitS. Despite the many differences between the GitS manga, movies, and series, in all of them Motoko Kusanagi, a cybernetic organism who works as a detective in Section 9, appears as the main character through which the relationships between body, identity, and technology are explored. Kusanagi is a cyborg with a fully cybernetic body who wonders how much she may be considered human anymore. Kusanagi has trouble identifying with her body, and hence with the biology of her own species. The biological body appears here, therefore, not just as a locus for individual history, but as a meeting place with the history of the species.

In the original GitS story, Kusanagi interacts with the Puppet Master, the first IA to reach autonomy as a conscious being, and that interaction prompts questions about her own humanity and unique identity. Throughout the franchise we find an ongoing exploration of the notions of the flesh as a unique and non-reproducible record of the subject's past, and the body as a materialization of the limits of the individual.

Kusanagi's desire to escape the limitations of her body is made evident throughout the 1995 film. For instance, in a scene where she returns from a dive she admits to her partner Batou that she feels confined to her body. In a sense, both *GitS* and *GitS: Innocence* handle the link between body and technology within a paradigm that draws more from the early imagination of cybernetics and the concept of cyberspace than from the imaginary of classic cyberpunk or of other contemporary technological anime. This early cybernetic paradigm has a dualistic and substantialist bent to it, idealizing transcendence of the biological body towards the technological as an almost-religious "overcoming" of flesh.

In her article «The "Virtual" Body and the Strange Persistence of the Flesh: Deleuze, Cyberspace, and the Posthuman», Ella Briens writes:

[...]the imaginary of cyberspace is invested in a notion of transcendence: specifically, transcendence of the body and its perceived material limits The techno-fantasy of cyberspace is that technology will finally deliver what philosophy and religion have only dreamed of – to free us at last from the earthly bonds of the flesh, with its hungers, needs, and limitations (Briens, 2011, p. 122)

GitS portrays the biological body as something that can be replaced by a technological body, but never the other way around. Unlike the former, the latter is associated with novelty and potentiality. Furthermore, it raises questions about the uniqueness and irreproducibility of individual identity, which becomes doubtful when it comes into contact with the technological element. As Bolton points out in his article *From Wooden Cyborgs to Celluloid Souls*, *GitS'* treatment of the body is complex and contradictory: «Oshii's film seems to be divided between nostalgia for a firmly physical body, on one hand, and a desire to transcend that body and enter a world of pure data or language, on the other» (2002, p. 731).

Furthermore, the franchise delves on transindividuality and its relationship with bodily transcendence on several levels. Individuality, or more precisely, the complete individual, is clearly shown as being *on the opposite side* of technology. The Tachikoma robots, for example, highlight the tension between progress and individuality in the *GitS:GIG* series: while each machine has different experiences, none of them has an individual past, and that is precisely because of their collective memory. Even though the Tachikomas' is a completely technological body, it is still presented as one that allows them to preserve certain characteristics of individual beings. Each Tachikoma's daily experiences differ from one another in the moment they occur, but they are not preserved in the form of an individual past or memory of the subject.

The Puppet Master, on the other hand, personifies the fantasy of transcending one's physical boundaries. In this extreme case, the physical "body" is the network itself. Unlike the biological body, it is a distributed and immobile body with only an indirect relationship to the character's action. For this reason, the Puppet Master does not completely identify with any physical body. The metaphorical title, "Ghost in the Shell", refers precisely to this mind/body dualism, in which various technological bodies appear as mere puppets that the Puppet Master manipulates without being bound to them by any record or memory.

The case of Puppet Master also accounts for the difference between the biological body as a history record and the technological body as a locus for novelty. Kusanagi must shed her flesh body in order to transform into another being, one in which her individual identity as Kusanagi will be lost. It's worth noting, however, that the Puppet Master depends on Kusanagi to complete itself precisely because he lacks any organical capacities for reproduction and death. According to the anime's conceptual scheme, uniqueness requires a transformation into something other, a becoming difference. This is ultimately realized in a technological process of collective individuation, in a move which is interesting in relation with another of the questions we have raised above: that of the relationship between sex/gender and technological transcendence. In this case, we see that while gendered and sexed traits seem to be completely overcome in the proposed fusion of identities, at the same time *something akin to sex itself* is introduced, leaving us to ponder if Kusanagi's role is not ultimately a very traditional feminine-as-procreation-oriented role. Schaub (2001) has explored how the different treatment of visual and functional sexual traits in *GitS* can be read as a critic of capitalist reification, in a direction not too dissimilar to Federic's *cartesian dream* mentioned above.

Delving on this connection between body and individual and collective history, *SEL* also uses the network image to investigate shared identity and the link between the individual and death. Lain begins to receive messages from a girl through the Internet after a classmate commits suicide. This sets in motion a complicated scenario in which Lain develops an obsession with the virtual world and her identity is put in crisis. Not only will three separate Lains surface, posing a threat to all of her relationships, but her memory and family ties will start to vanish as well. In *SEL*, like in *GitS*, individual death entails passage to the collective: Lain eventually vanishes as an individual creature in order to transcend to the world of the Wired.

The relationship between technology and corporeality, thus, is explored throughout the plot of *SEL*. As Steven T. Brown analyzes this relationship in his book *Tokyo Cyber-Punk: Posthumanism in Japanese Visual Culture* (2010):

There is a tension throughout *Serial Experiments Lain* between a desire for disembodiment, on the one hand, and a desire for reembodiment, on the other. Indeed, it could be argued that most posthuman anime and films involve some sort of negotiation between these two poles, generally favoring one side over the other. The desire for disembodiment typically presupposes contempt for the obsolete human body and a yearning to escape death by discarding or annihilating the body in favor of some higher, transcendent state of being, whether spiritual devaluation of the body in favor of a “mind” or “soul”, however conceived, exemplifies a clear desire for disembodiment. Moreover, the desire for disembodiment may also include transhuman (or extropian) fantasies of uploading consciousness into a computer in the digitally pure form of an autonomous program or code that can then circulate freely across cyberspace. [...] This transhuman view of posthumanism privileges what N. Katherine Hayles has described as “informational pattern over material instantiation, so that embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life” (Brown, 2010, pp. 176-177)

This type of dualism may be seen in both *GitS* and *SEL*. Materiality is characterized as something that must be abandoned in favor of a form of life conceived as incorporeal or largely independent of the body, and thus superior or more evolved. As a result, a desire arises to transcend the body and its needs and reach a purely technological existence. In addition to being dualistic, this suggests a certain essentialism:

The more Eiri rants against the materiality of the body and hardware, the more obvious it becomes that his is an ideology of electronic presence —an “informatic essentialism” or digital idealism, if you will— that is simply another variation on the extropian fantasy of electronic transmutation. [...] According to Eiri’s brand of digital idealism, the sensible world of phenomena is subordinated to the intelligible world or digital data in the Wired, of which the material world is merely a hologram. In other words, by elevating the Wired to a transcendental realm where Truth, the Real, and the Thing-In-Itself reside, Eiri’s digital idealism approaches something like cyber-Platonism. (Brown, 2010: 177)

But, like in *GitS*, it’s also fair to wonder how much of this dualism and essentialism is only apparent. To begin with, there is no true dematerialization; rather, one materiality is substituted for another. We observe how the virtual world requires physical support at all times: computers, connections, and the like are integral parts of the “virtual” world. Although the virtual is in some ways antithetical to the physical (particularly as shown in Eiri Masami’s discourse), there is some continuity between the two. But there’s more: as evidenced by *Lain*’s victory over Eiri

Masami, who favors a virtual existence beyond the physical, what happens in SEL is, in a way, a corporeal victory (Brown , 2010: 180). Lain and Alice, one of his greatest pals, are shown together in a scene from Chapter 12, "Landscape." Alice urges him to feel her body and explains that her heart is racing because she is frightened of losing it. Finally, Eiri Masami endures a horrifying metamorphosis (similar to Tetsuo's at the end of Akira), after which Lain informs him that he doesn't understand anything because he lacks a body.

Now, if we go back to 1995's *GitS* film and take a more technical look into it, we can see that even there the "spirit" does not abandon matter either; instead, we find another sort of materiality is portrayed, one that is tied to spirituality and in which the visual domain is subjugated to the auditory. Although there is some dualism in it, it is not a net dualism in which two worlds or two clearly distinct realities, the material and the spiritual, are depicted. While the mind - (biological) body relationship is questioned, materiality itself is not abolished or transcended. Rather, it is substituted by a different version of itself: a materiality which is conceived as a kind of destination for humanity, although not so much through the definition-blurring perspective of posthumanism, but in a sophisticated version of transhumanism.

Let's follow Shin's (2011) example and compare Mamoru Oshii's use of voices in *Akira* to what Katushiro Otomo did in *Akira*. Through the use of narrators and the voicing of private thoughts, the relationship between sound and image is often used in film to underscore the distance between the spiritual and the material. In Otomo's film, all the dialogues were recorded before the animation, resulting in a perfect match between the animated mouths and the sounds of voices throughout the film. That seems fitting because, as previously stated, *Akira* and *Evangelion* oppose the kind of dualism alluded to in *GitS*. In them, the biological body cannot be transcended or replaced (only extended) by a technological body. Shin, however, compares *Akira*'s final scene to Oshii's use of voice in *GitS*. The author discusses the absence of harmony between the acoustic and graphical dimensions, as well as the lack of audiovisual integration:

No matching image is offered for the voice-echo except dead stillness, essentially suggesting the reverse of the Big Bang scene in *Akira*, where the visual explosions are completely silent. The voice dissociated from image consequently demonstrates Oshii's interrogation of the fundamental operation of sound-image relationships. The resulting sensory break between sound and image, and the dimensional gap of space and time, illustrates animation's heterogeneous representational regime, which reopens the chasm of unified sensory registers and thereby disrupts coherent corporeal experience. (Shin, 2011: 11)

This new space opened, however, is something different from a mere disconnection between matter and mind: it is meant to speak to us of new kinds of coherence, of different organizations of matter. This is underscored by the repeated use of eerie, religious-like vocal music during these scenes.

Shin also mentions *GitS*'s rupture with Cartesian perspectival expectations as a second resource Oshii uses to interrogate the relationships between subject and object and between the human and the technological. Shin focuses on two scenes in which this non-cartesian, “inorganic” gaze, may be observed. These are the scene in which Batou and Kusanagi hunt the villain whose memories have been replaced by the Puppet Master, and their scene on the ship. We can observe a very special interaction between flat image and depth in these two scenes. This interplay, according to Shin, allows Oshii to represent the characters' psychological and emotional states. From a technical standpoint, we see how, in the pursuit scene, the optical plane moves in a sequence that blends manga-like flat graphics, three-dimensional cinematic space, and the presentation of a four-dimensional space using the digital morphing approach (Shin, 2011: 15). Although Shin reads the scene as a metaphor for the postmodern condition, with its schizophrenic temporality, historical forgetfulness, and dehumanization, we prefer to read it more specifically as resignification of the relationship between technology and humanity. Indeed, it is a *decentered* gaze: there is no longer a particular perspective, but rather a game of delocalized, expanding visions. These technical motions strengthen Oshii's concept of a material extension of the spiritual, which he already offered with the disconnection of speech and image.

In *GitS*, therefore, we find a clear opposition between human beings and technology: acquiring a technological body means, to a certain extent, abandoning one's identity as a human being. Technology (and specifically AI) works as an enabler for the radical abandonment of the biological body. This body is presented as what defines individuality as such and at the same time places him within the human species, while the technological domain is identified with novelty and indefinite potentiality. By becoming a purely technological individual, Kusanagi abandons, along with all traces of biology, her own humanity. This clearly falls more on the *t/* side of our *t/p* field, even if one should note that the idea of a rupture with the human and the biological does not imply a dematerialisation. Rather, what is proposed is a rediscovery of the possibilities of matter, an escape of the conceptual corset of the human body. The robotic (interchangeable) body and the physical network appear thus as the material substrates of a way out human limitations, which include, of course, gender and sexual limitations.

Interlude. Ain't "Robot" always been a woman?

Or do they? Authors as Schaub (2001) have noted that the main relationship between the robotic body and sex/gender in anime seems to be one of *contrast*: the sexualized female traits of Kusanagi appear as shocking in the context of the robotic body, and the more the industrial, inorganic nature of her body-machine is revealed, the less we perceive it/her as feminine.

On the other hand, the Puppet Master seems to have a preference for doll-like bodies, and through the use it makes of them we are repeatedly reminded of the one obvious thing traditional femininity and robotics have in common: subservience.

Let us turn back in time and remember the origins of the robot, the literary paradigm of the artificial being. The robot occupies a prominent place in anime's history, mainly through the enormous influence of Tezuka's *Astroboy*, one of the defining creations of the genre. Tezuka was a very well-read man, and between the works that influenced him there was a translated copy of Rossum's *Universal Robots*, published by Karel Čapek in 1921: the play in which the word "robot" was used for the first time. The story is about a species of slave-like artificial beings who, at a given moment, rebel against their human masters. In the author's native czech language, "robot" means "work" or "service", and is derived from the word "slave" or "servant" (Schodt, 2010, Part One, Chapter 2, para. 3). Čapek's work, in turn, is heavily influenced from the Jewish traditional figure of the Golem, which we can also connect with the myth of Prometheus. In both the Golem and Prometheus stories we find two key common elements: the desire of those who are not "naturally equipped" to do so to bring forth new life from *mere* matter, and the idea that this implies a *hubris*, a going against the wishes of (and risking the ire of) either Nature or a superior being.

Interestingly, the story of Shelley's *Frankenstein*, considered by many the first modern science-fiction work, also draws its imagery from this tradition. But Frankenstein's creature can also be seen as a direct antecedent of the figure of the *cyborg*, that is, a being where the human and the technical are inextricably confused. The imaginary around the robot is not one of clear limits, but one that points to the fact that traditionally assumed limits can be blurred: matter can come alive, non-pregnant beings give life... This transgression, however, will usually be punished: the original robot idea revolves about the notion that those limits are somehow related to the social norms that establish domination.

Ultimately, we can trace back these connections to the basic cultural, social and economical structures that were seminal in the configuration of what we sometimes call the West. Many elements of our present-day myths and imaginaries about society (but also, for

instance, our present legal system) are deeply rooted in ancient greek culture, and specifically in the notions of the *oikos* (the *home* or basic unit of family, property and work) and *kyrios* (the male adult father/owner of the *oikos*). In turn, one of the crucial laws of the relationship between *kyrios* and *oikos* is the fact that the *kyrios*, the legal and public representative of the *oikos*, has a complete power of life and death over his children, women, slaves and animals. While male children are expected to grow up to be *kyrios* themselves, and animals are supposedly unable to reason, women and slaves are perennially separated from a full public life precisely because they share a common function of physical workers of the *oikos*, with one fundamental difference between them: the (male) slave occupies himself mainly in what we nowadays would call “production”, while women are in charge of care, sexual work and reproduction.

In that structure we find the origins of what both binds and separates robots and sex/gender: while mechanical toil and loving care should in principle be properly distributed, each to his particular kind of familiar slave (it is worth nothing that “family” comes precisely from the latin *famulus*, slave), there is a natural tendency of those oppressed together to rebel together. And indeed, in the intimate sphere of the *oikos*, there isn't much obstacle for sexually abusing the worker or forcing non-metaphorical field labor on the wife. So, ultimately, the robot is revealed as sharing at least its core trait of subjugation with the female, the marked gender, and it only takes a little push in the imaginary direction of pornography, for instance, for the sexedness of the robot to suddenly emerge.

Somehow, however, we perceive that this connection is a lot easier to apply to the individual physical robot than to its ethereal and distributed counterpart the artificial consciousness. No matter how much the Puppet Master teases us with dolls, or how much Lain warns us about the risks of being disembodied. IA is more difficult to associate with the working parts of the *oikos* because it clearly partakes of what distinguishes the *kyrios* from them: not only intelligence (in the end, both the tool and the slave are supposed to have something of that), but the commerce with symbols and commands. It is not its artificiality what makes us difficult to think of the Puppet Master as female, or even its lack of dependence on a specific body, and it certainly is not the fact that it is conscious, but the fact that (unlike, for instance, the Tachikomas), it presents itself as *autonomous*.

The robot as posthuman alliance.

As we have seen, GitS and SEL use images and narratives that correspond roughly to a moderately t/ -wise side of our t/p field and to what we referred previously as option a1 with

respect to gender. However, their sophisticated use of this imagery reveals its inherent nuances and tensions. Now we are going to look at Akira and NGE as examples of anime in which the basic suppositions behind these options are directly attacked: the frontiers between human and artificial being, between mind and body and between the “autonomous” and the collective are blurred and questioned.

All of this, of course, falls in line with the posthumanism of authors as Haraway and Hayles, who argue for a critical *thinking through* of embodiment and our relation to technology (Brians, 2011, p.129). While the centrality of the body as a substratum of thought emerges even in *GitS* and *SEL*, Akira and NGE underscore not only the existential fact that we are our bodies, but also the impossibility of deciding where the body ends and where the mind begins: we are our conscious bodies, but in a sense that has little to do with the apparently clear limits of our skins.

In both Akira and NGE the biological body has more prominence than in *GitS*, both as an image and conceptually. In them, technology does not serve as a means of abandoning the human flesh or the human species: the dualism that would make that possible is alluded to, but only to be denied. Although the biological body appears, once again, as a record of individual and collective history, and in this sense it is still linked to the concept of the past, there is no “already given” in the body, no hidden or inactive past individuating the conscious subject. In these two anime, the past is above all power and virtuality: that past is what brings the future forth. At the same time, technology emerges as that which, in one way or another, updates the virtualities attached to the past and releases its potential.

Another important difference is that in Akira and NGE, the concept of individuality as a whole is questioned by the encounter with something that is more than the individual subject, but at the same time is indistinguishable from the individual’s own embodied self: the past of the species. Instead of opening the door to an overcoming of embodiment, technology awakens an active history of the body that transcends the protagonists and exposes that they have never been complete and independent, but rather have always been a part of something bigger. This active past corresponds to the evolutionary impulse as something that is still acting on bodies, though it is not only expressed in organic matter. Thus, in *Evangelion*, the robotic body also becomes a living and experienced body: not only can the pilot feel the pain produced by the robot, but the robots are ultimately revealed to be related as kin to humanity, and even contain the psyches of the pilots’ mothers.

In Akira’s final scene, mind-body unity is questioned through audio desynchronization, as it was in *GitS*, but the scene points to something entirely different: the immanent impossibility of

identifying one's own body. The body is conceptualized as pure diversity, but there is no identification between the voice and the spiritual. In the end, the sentence "I am Tetsuo" suggests a link between the auditory and the subject's identity, but the fact that this only works when no image is present anymore, points to the impossibility of a *complete* identification. Otomo emphasizes that identity always begins from difference: autonomy is necessarily founded on a relationship with the medium and with other beings, and the emergence and persistence of individuality is not a given, but a problem.

In this respect, it's also worth mentioning the role of Rei Ayanami's character in Evangelion. It is a mysterious character, about whom little is known during most of the narration beyond the fact that he pilots EVA 00. During the end of the series, however, we discovered that there are actually multiple bodies called "Rei Ayanami", all of them clones of Shinji's mother. In fact, during the development of the plot, three different Rei have appeared, one body being replaced by another when it dies. The multiple Rei do not share the whole of their memories, and therefore Rei appears as a character who is not individuated either by her memory or by her flesh. But in the end, Rei turns out to be an incarnation of Lilith, the evolutionary mother of humanity. Thus, the lack of an individual past that identifies her is not presented in Rei's case as a mere lack: on the contrary, it enables Rei to fully embody the past of the species, the common origin of all human individuals.

Therefore, we see how the relationships between corporeality, technology and different forms of the past have a prominent role in these animes. The body and its technological extensions are revealed as the key place in which history (not only of the subject, but of the species and of life) emerges as an impulse that subsumes and at the same time exceeds its individuality. From the perspective of our analysis, this means that the collective forces working alongside the individual (the wives, slaves and animals of any *oikos*) are recognised and brought to the forefront of the story. At some points this takes the form of a very direct critique of transhumanist narratives. We see, for example, how the MAGI supercomputers, which are simply described as military AIs at the service of the NERV organization the beginning of the story, are then revealed to have biological components and humanlike personalities, and finally, to have been constructed from parts of the brain of NERV lead scientist's mother. This apparent obsession with mothers hiding behind technology (the EVA units have the souls of the pilots' mothers; the AI is literally made of parts of a scientist's mother) has to be read precisely in the directions already pointed. It is as if the anime, at points, is screaming to our transhumanist: there is nothing inhuman in your technology - as the rest of the species, in the end what made it possible was the caring work of female bodies.

Interestingly, in the case of Evangelion it is not only the story that unravels in these directions. Through the series Anno makes use of the techniques of limited animation and stock image insertion to play with the audience relationship with what is viewed. In the ending of the original series, the story seems to end up disappearing in the middle of an unveiling of animation itself, as if Anno was forcing the spectators to confront the very situation in which they, as humans trying to “lose themselves” in an anime, actually are. And while he ended up publishing a second finale in the form of a movie, *The End of Evangelion*, he refuses to completely abandon his game, and once again breaks the narrative to show images of the female voice actors, and even of the death letters sent to him after the first ending.

Although both Akira and Evangelion endings seem to take us near two abysses of abjectional chaos (Tetsuo’s body becomes an explosion of living, growing flesh; humanity as a whole becomes one liquid sea of souls as NERV’s Project of Human Complementation is completed), what they do in fact is subvert our expectations by letting the forces that usually work behind the scenes emerge: they point our attention to the work of actual machines, but also of actual humans with sexed and gendered bodies and lives, and to the fact that only through a veil of abstraction (such as that criticized by Federici) they lend themselves to be fit into the aseptic limits of technologically inspired fictions. In Otomo’s and Anno’s posthuman hands, they revolt against any idea of AI or robotics that refuses to wear its entanglement with human sweat glands and uteruses on its sleeves.

Simondon, Botticci and the *trans-* of transindividuality

Regarding gender, then, in Akira and NGE we are again left undecided between two options, even if we now can discard the more naive version of the first one:

Option a2 (posthuman-wise version): t/p is good, because it helps us conceive a (theoretical) overcoming of the (discursively imposed) limits of gender and sex.

Option b: (independently of their nature,) gender and sex are part of what defines most human identities, and the idea of “overcoming” them may often be based on a misogynistic rejection of traits traditionally identified as feminine.

In fact, it seems that these seemingly opposed options now may collapse onto an hybrid one: the recognition that t/p images and concepts may help prove our views on gender and sex too limited, while at the same time we guard ourselves against the possibility of erasing what's actually hidden under those views: the complexity of sexed and gendered working human bodies and their experiences. And as the countermodel presented by Akira and NGE shows, that complexity goes well beyond images and narratives about complete, autonomous consciousnesses and bodies can offer us, and takes us to the realm of the collective.

We believe that one powerful concept that can help us understand the kind of fictions and images about *that which exceeds the individual* that appear in our corpus is that of *transindividuality*, as originally developed by Gilbert Simondon (1989) and more recently developed by Boticci (2022).

Boticci wants to get rid of the idea of the human body as a singular substance underlying human cognitive agency, which is deeply rooted in methodological individualism. Following Simondon and Balibar reading's of Spinoza, she underscores the fact that the individual doesn't preexist its own process of individuation. Instead, any situation includes interactions between (complete or incomplete) individuals and their environments, and a crucial part of these environments is always what Simondon calls their potential energy or even *apeiron*, the undetermined. Individuation consists in the restructuring of all kinds of systems in ways which imply not only the transmission of form between different elements (transduction), but also the structuring of relational elements that are not reducible to terms. The concept of transindividuality, then, builds bridges between nature and culture and between nature and technology, and opens up a whole dimension of being that is not exhausted in the formation of individual subjects. The question no longer is how to explain individuation through the acts of individuals but how to explain the way individuals act by describing processes that also affect and are affected that which is inherently collective, which is part of the situation but not reducible to individual terms.

Translating to our previously used terms, society cannot be reduced to the exchanges between autonomous *kyrios*, or even to exchanges between *oikos* composed of *kyrios*, wives, children and slaves. Pregnancies and harvests need to be granted full status of being, as do floodings, pests and social values. What our analyses of our corpus shows is how the animetic imaginary on robots and artificial beings elaborates on the idea that the relationships between human and machine cannot be thought of without recourse to these transindividual elements. There is no mind-uploading that doesn't lead to questions about sex and procreation, and there is no IA can help us escape the role (or absence of it) of women's bodies in its own creation.

Conclusion. Is the animetic contribution of our corpus feminist?

We hope to have shown that the kind of reflections and imaginations incited by the anime in our corpus, which we take to be representative of general tendencies in technological anime as a whole, are useful to rethink some notions related to technology, IA and the limits of sexual and gendered identities. They are profoundly inspired by transhumanist and posthumanist ideas, and in turn contribute powerful material with which such discourses can be built. Particularly, we believe that a relevant contribution anime, as a thinking device in itself, has made to the matter of IA and gender is underscoring the social relations and values underpinning the traditional dichotomies that in many cases still structure our thinking about technology and its relationship with humanity. As the anime themselves show, these relations themselves cannot be reduced to its individual parts, so our technological imagery needs to learn to deal with the level of the transindividual, where processes of collective individuation take place.

The same way *GitS* or *Evangelion* force us to think in in what transpires in the collective level, trying to understand what the applications of AI can mean for gendered and sexed workers all over the world, and especially for those whose bodies and agencies are marked as female, trans or nonbinary (i. e, precisely as *marked*) will demand of us a capacity to think beyond the established and include something more than individual, autonomous (workers, computers, AIs, cyborgs, women). Inasmuch as it trains us to do so, anime's contribution, for all of anime's criticizable aspects, is not only gender-relevant, but a feminist one.

References

- Ballesteros, V. (2020). De Günther Anders al transhumanismo: la obsolescencia del ser humano y la mejora moral. *Isegoría*, (63), pp. 289-310.
- Barad, K. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs: Journal of women in culture and society*, 28(3), pp. 801-831.
- Bolton, C. A. (2002). From wooden cyborgs to celluloid souls: Mechanical bodies in anime and Japanese puppet theater. *Positions: east asia cultures critique*, 10(3), pp. 29-771.
- Bottici, C. (2022). *Anarchafeminism*. London: Bloomsbury Academic.