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The Anthropocene in Dispute: The Realist Path towards New Tensions between Particulars and Universals during the Scientific Rejection of the 'New Epoch'

El antropoceno en disputa: el camino realista hacia nuevas tensiones entre particulares y universales durante el rechazo científico de la 'nueva época'

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Abstract. In early March 2024, after more than a decade of scientific discussion, the Subcommission on Quaternary Stratigraphy (SQS) rejected the proposal to confirm the 'Anthropocene' as a new geologic epoch on Earth. Despite evidence from the Anthropocene Working Group (AWG), which proposed to locate the stratigraphic 'golden spike' in the sedimentations of Crawford Lake in Canada due to high recorded levels of radioactive plutonium isotopes, the scientists concluded that these were not a particular phenomenon sufficient to mark the general onset of a new post-Holocene epoch. In this context, the decision reflects tensions between 'particulars and universals' linked to three forms of vulnerabilities: planetary, anthropological and technological. This paper investigates the philosophical implications of these tensions and examines the ontological problematics arising from resolutions that attempt to reconcile the global and local planes. To this end, the 'factuality principle' of Meillassoux's speculative materialism is confronted with the anthropic principle of the Gaia hypothesis and James Lovelock's 'Novacene cyborg'. Furthermore, the thesis of 'ancestrality' is analyzed not only as a realistic foundation for thinking a deep post-human geological time, but also as an argument for dismantling a hegemonic sense of technology and anthropology. Finally, it concludes on the vital importance of incorporating cosmotechnical and xenofeminist approaches to the humanities to build a new universality, opening paths to design a world of humans and non-humans.
Keywords: Anthropocene, Novacene, speculative realism, anthropic principle, cosmotechnics, xenofeminism.

Resumen. A principios de marzo de 2024, después de más de una década de discusión científica, la Subcomisión de Estratigrafía del Cuaternario (SQS) rechazó la propuesta de confirmar el 'Antropoceno' como una nueva época geológica en la Tierra. A pesar de la

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evidencia presentada por el Grupo de Trabajo del Antropoceno (AWG), que proponía localizar el 'clavo de oro' estratigráfico en las sedimentaciones del lago Crawford, en Canadá, debido a los altos niveles registrados de isótopos radiactivos de plutonio, los científicos concluyeron que estos no eran un fenómeno particular suficiente para marcar el inicio general de una nueva época post-Holoceno. En este contexto, la decisión refleja tensiones entre 'particulares y universales' vinculadas a tres formas de vulnerabilidad: planetaria, antropológica y tecnológica. El presente trabajo investiga las implicaciones filosóficas de estas tensiones y examina las problemáticas ontológicas derivadas de las resoluciones que intentan conciliar los planos globales y locales. Con este propósito, se confronta el 'principio de factualidad' del materialismo especulativo de Meillassoux con el principio antrópico de la hipótesis Gaia y el 'Novaceno cíborg' de James Lovelock. Además, se analiza la tesis de la 'ancestralidad' no solo como fundamento realista para pensar en un tiempo geológico profundo y posthumano, sino también como argumento para desmontar un sentido hegemónico de la tecnología y la antropología. Finalmente, se concluye en la vital importancia de incorporar a las humanidades planteamientos cosmotécnicos y xenofeministas para construir una nueva universalidad, abriendo caminos para diseñar un mundo de humanos y no humanos.
Palabras clave: antropoceno, novaceno, realismo especulativo, principio antrópico, cosmotécnica, xenofeminismo.

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The horizon toward new possibilities of the universal

Today, the planetary condition demands approaches that transcend local dimensions. Consequently, the global environmental crisis requires solutions that catalyze new forms of conflict, as the problems in the context of the Anthropocene, the technological development, and the technification of the human generate tensions between local and universal perspectives.

In this scenario, the speculative, cosmotechnical, and xenofeminist philosophical perspectives, yet different and occasionally opposing, concur in the need to reconcile the general with the particular. Even though these perspectives offer different treatments, it is both possible and suitable to connect some of their premises in the pursuit of new universals. All this with the aim of giving a critical escape to any form of reductionism that becomes inoperative when facing global range challenges.

The ideas above highlight the importance of understanding this situation through cosmopolitical views on planetary, anthropological, and technological vulnerability.[1] Therefore,

[1] From the definition of 'technology' as 'cosmotechnics', Yuk Hui points to a cosmopolitical approach to technodiverse activities. Within this framework, it is understood that "the main difficulty of all cosmopolitics is

efforts toward a universalist philosophy that considers technological mediation and technoscientific innovation in the resolution of human and non-human issues assume the discussion of a speculative and xenofeminist premise within this text.[2]

Nevertheless, how can the universal be addressed if the Anthropocene crisis is revealed as the most general condition affecting particulars? Is this new geological epoch a real expression of local (and localized) decisions that have altered the deep historical time? What if the term is rejected for not accurately reflecting an exact scientific character in 'nature'? Or, conversely, if this crisis marks the end of any discussion about the 'truth'? Perhaps, at this point, it is convenient to review new philosophical perspectives on the vulnerabilities previously mentioned, with the aim of investigating their implications, and clarifying how a universal that defies the premise of being against the limit of reality is profiled.[3]

Humanity taken as a whole: sedimentation, deep time, and a supposedly universal 'golden spike'

If the particular effects of human action on Earth have a geohistorical incidence, then the term 'Anthropocene' must be understood at least in two ways: one that describes humanity "taken as a whole and as a single unit",[4] and another as a nomenclature indicating an 'outdoors' beyond human consciousness. Viewed in this light, the term seemingly implies a contradiction: it aims towards a reality independent of subjectivity which, however, as a general agency of impact on the planet, is the cause of such consequences that transcend it.

In part, the complexity of the term Anthropocene arises not only by the material character of the reality it seeks to delineate, but mainly because this materiality leads to the feature of a 'deep time', that is, to the inscription of its phenomena in a timeline that must have geological entities as a correlate. In other words: placing human activity in a timeline implies

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the reconciliation between the universal and the particular". Yuk Hui, "Cosmotechnics as Cosmopolitics", *E-flux Journal*, no. 86, November 2017. www.e-flux.com/journal/86/161887/cosmotechnics-as-cosmopolitics, par. 8.

[2] "We take politics that exclusively valorize the local in the guise of subverting currents of global abstraction, to be insufficient […] The universal must be grasped as generic, which is to say, intersectional […] This is not a universal that can be imposed from above, but built from the bottom up". Laboria Cuboniks, "Xenofeminism: A Politics for Alienation", *Laboria Cuboniks*, n.d. https://laboriacuboniks.net/manifesto/xenofeminism-a-politics-for-alienation, pars. 11-16.

[3] "This refusal to frame nature as only and always the unyielding limit to emancipatory imaginaries is a key element of the xenofeminist project". Helen Hester, *Xenofeminism* (Medford: Polity Press, 2018), 13.

[4] Bruno Latour, *Facing Gaia. Eight lectures on the new climatic regime*, trans. Catherine Porter (Medford: Polity Press, 2017), 203.

situating its effects from the understanding of deep time and, therefore, framing them within stratigraphic references.

Accordingly, the Anthropocene demands a historical perspective, namely an *epoch* defined by particular agents that, together, add up to a generality that will remain *sedimented* beyond the duration of anthropological existence. Thus, philosophical research is not only confronted with the need to provide explanations based on fossils and strata —as well as to develop theoretical starting points that account for the shift towards geological scientific propositions— but must also overcome anthropocentrism without obviating the historical aspect of non-human materialities.

Perhaps, at this point, it would seem strange to assume that geological changes have no historical connotation for our planet and human time, however, a review of conceptual developments in British historical geology shows otherwise. In this regard, geologist and historian of science Stephen Jay Gould pointed out that Jammes Hutton, despite having made the conventional discovery of deep geological time, still held a general anti-historical theory because of his adamant conception of the 'time cycle' of a 'world machine':

> The classical data of historical geology are fossils and strata. Obviously, we cannot charge Hutton with inattention to principles that were codified after his death. […] Hutton used the data of fossils and strata as primary empirical supports for his system, but he never invoked them as signs of history […] In the one passage where Hutton dares not deny distinctive difference in time, he manages to bypass the subject completely, using another aspect of the tale to support time's cycle. Hutton does not argue that human life has pervaded time, but admits the scriptural tradition of recent origin. He simply acknowledges our late appearance in a sentence, then immediately moves on to extolling other fossils as indicators of deep time.[5]

Despite the empirical support in fossil and stratigraphic data, Hutton did not understand deep time with markers of distinction of particular epochs.[6] Even his conception of the planet as a world machine allowed him to maintain that such observable data were the sample of a perfect design whose apparent variation and change belonged to a cyclic temporality of a deistic nature.[7] In this sense, one of the lessons that this fact teaches us is not to ignore the historical

[5] Stephen Jay Gould, *Time's arrow, time's cycle. Myth and metaphor in the discovery of geological time* (Cambridge: Harvard University Press, 1996), 86-88.
[6] *Ibid.,* 89.
[7] In describing how Hutton and Lyell had the strange conception of an Earth transcendent to historical change, Parikka writes the following: "Hutton's worldview was deistic, and for him the world was a perfectly designed machine. Hutton's geological world is also without change and difference and works in cyclical temporality. It is no wonder, then, […] that Hutton's account inspired Adam Smith's ideas concerning the invisible hand of capitalism in the emerging industrial system. Both seemed to believe in universal laws governing the empirical world". Jussi Parikka, *A geology of media* (Minneapolis: University of Minnesota Press, 2015), 40.

and philosophical implications manifested in the empirical geological data. So, it is precisely here that the Anthropocene finds its crossroads: Has human activity left its material traces in the succession of deep time? That is, has the human species truly produced significant stratigraphic data indicating the general change of a new geological epoch? What is the most appropriate philosophical reading of the human's capacity to become a geological force?[8] Furthermore, if planetary collapse is near in the Anthropocene, is there some deep law or 'anthropic principle' that will reverse the situation?[9]

To summarize, it is useful to recall the divisions and subdivisions of geological time into decreasing order: eons, eras, periods, epochs and ages.[10] According to scientific nomenclature, today our species is in the 'Phanerozoic eon', in the 'Cenozoic era',[11] in the 'Quaternary period', in the 'Holocene epoch' and in the 'Megalayan age'.[12] Therefore, as a new epoch, the Anthropocene suggests a geological condition subsequent to the Holocene, and thus assumes the possibility of verifying the appearance of a series of phenomena originating from anthropogenic causes, which result in sedimented materials in the course of history. In this case,

[8] From the image of Professor Challenguer, who explained that the Earth was a 'body without organs' in which 'stratification' takes place, Deleuze and Guattari developed '*10,000 B.C. The geology of morals. (Who does the Earth think it is?)'*, the third chapter of *A Thousand Plateaus*. Here stratification and deterritorialization can be read from the binding play between *strata*, *judgments of God* and *tools* (technological content). Note: "Whereas manual formal traits constitute the unity of composition of the stratum, the forms and substances of tools and products are organized into parastrata and epistrata that themselves function as veritable strata and mark discontinuities". Gilles Deleuze and Félix Guattari*, A Thousand Plateaus. Capitalism and schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 2005), 43, 61. As an additional note, this same chapter is the one that served as the basis for Danowski and Viveiros de Castro to describe that, in the Anthropocene, morality has been *geologized* and the *sociocosmological stratification of modernity* is imploding. See: Débora Danowski and Eduardo Viveiros de Castro, *The ends of the world*, trans. Rodrigo Nunes (Malden: Polity Press, 2017), 14-15.

[9] In synthesis, the anthropic principle is the assertion that there is finite life perceiving the world, and this fact is the very proof of the existence of a physical and cosmological order in the world to produce such life. Note the underlying drifts towards anthropocentrism or onto-theological necessity, depending on the appropriation made. Roger Penrose, critic of the anthropic principle, summarizes the matter as follows: "We could use this argument to explain why the planet upon which we live has such a congenial range of temperatures, atmosphere, abundance of water [...]. If conditions were not so congenial on this particular planet, then we would not be here, but somewhere else! [...] Much more problematic are versions of the *strong* anthropic principle, according to which we try to extend the anthropic argument to determine actual constants of nature (such as the ratio of the mass of the electron to that of the proton, or the value of the fine structure constant [...]). Some people might regard the strong anthropic principle as leading us to a belief in a 'Divine Purpose', whereby the Creator of the universe made sure that the fundamental physical constants were pre-ordained so as to have specific values that enable sentient life to be possible. On the other hand we may think of the strong principle as being an extension of the weak one where we broaden our questions of 'where' and 'when', so that they apply not just to a single spacetime, but to the whole ensemble of possible spacetimes". Roger Penrose, *The road to reality. A complete guide to the laws of the universe* (London: Jonathan Cape, 2004), 757-758.

[10] Latour, *Facing Gaia. Eight…*, 249.

[11] Jay Gould, *Time's arrow, time's*…, 86.

[12] Subcommission on Quaternary Stratigraphy (SQS), "Major divisions", *Quaternary Stratigraphy*, May 13th, 2024. http://quaternary.stratigraphy.org/major-divisions

the question demands a turn towards that which properly constitutes the particular evidence or the 'golden spike' as a 'Global Stratigraphic Section and Point' (GSSP),[13] so that, to a certain degree, geological research finds its meaning in the search for the general manifestation of the human whole turned into a stratum.

As a result, the reason for acceptance or rejection of the new epoch must go through determining a generalized particularity in the planet, and in such a significant way that it indicates the global condition of a 'before and after' in an Earth that transforms its terrestrial system during the vicissitudes of a deep time. However, the golden spike must come from an artificial source so that it is not the residue of the changes inherent to a planet with constant biogeochemical processes. On the contrary, stratigraphy must provide evidence of how these processes have changed their patterns for human reasons.

The declaration of an epochal change adds something else to this terrestrial pattern transformation. Such a change must be coincident with the proof of a new organization and inaugurate another kind of pattern that cannot be inferred from biogeochemical processes. In other words, this new organization must be explicable only by the artificial proceeding of something living. Hence, 'life', 'organization' and 'artificiality' become relative to the variation of terrestrial patterns.[14] According to this approach, the Anthropocene is defined by an artificial planetary modification produced by living forms of organization. In addition, it also alludes to a modification that alters the Earth to the point of collapse of its biotic and abiotic factors. Consequently, we finally arrive at the conception of the catastrophic impact of human becoming.

With the above, the mode of organization that human beings have achieved through their artificial and technical deployment (i.e., their general forms of life), has risen to the level of a factor that transgresses the limits of the planet's biophysical processes, altering the environment

[13] Part of this aspect is discussed by Bruno Latour when reviewing the report of the congress of the International Union for Quaternary Research; event held in 2011 (July 21-27). In his analysis, Latour takes up the 'golden spike' equating it to an Anthropocene that is shown as the detectable milestone that would manage to move us, conceptually speaking, away from the notions of 'modernity' and 'Modern'. For an extension of the theme, see the fourth lecture The Anthropocene and the destruction of (the image of) the Globe, in Latour, *Facing Gaia. Eight*..., 202-263.

[14] One of the alternatives to solve the climate emergency is to harness the theory and practice of artificiality in 'terraforming' projects. On the other hand, following Lovelock, it is important to point out the entailment between 'life' and 'artificial organization of the environment'. See: Benjamin Bratton, *The terraforming* (Moscow: Strelka Press, 2019), 16-27. And James Lovelock, *Novacene. The coming age of hyperintelligence* (Cambridge: The MIT Press, 2019), 122-123.

and endangering living species.[15] At this point, the definitive proof of the Anthropocene's existence is enunciated under the clause of the scientific community providing a particularity that has transformed the planet into something —moreover— vulnerable, and at the same time, away from the expected and probabilistic course of patterns that yield their regularity to the gradual randomness of entropy.

What is the singular phenomenon that becomes universal as stratigraphic data and opens the door to a new biogeochemical time? Or to express it substantially, if the Anthropocene is a fact, then stratigraphy has the minimum obligation to delimit two answers: When did it start, and what caused it? Now, without intending to enumerate the replies given to these questions along with all the proposed starting dates,[16] it is worth noting that, derived from years of research and stratigraphic techniques, the Anthropocene Working Group proposed to the Subcommission on Quaternary Stratigraphy the year 1952 (A.D.) as representative of the beginning of this new geological epoch. The date is due, among other things, to the detonation of thermonuclear bombs and the 'Great Acceleration' of the mid-20th century.[17] So the golden spike was located in the sedimentation of Crawford Lake (in Ontario, Canada) due to the high levels of plutonium as scientific finding.[18]

As may be noted in the proposal, the pattern coming from human artificiality is manifested in the disruption of a previous pattern, in the form of radioactive isotopes sedimented in material means. On close reading, what the Anthropocene Working Group presents,[19] as a philosophical implication, is the place of juxtaposition of some play between particulars and generals: a singular location representing global change, and a specific effect coming from human activities taken as a whole. Not only that, but, so to speak, Crawford Lake

[15] "In September 2009, *Nature* published a special issue in which several scientists [...] identified nine biophysical processes of the Earth System and sought to establish limits to these processes which, if crossed, would lead to unbearable environmental alterations that would be unbearable to several species, ours included: climate change, ocean acidification, stratospheric ozone depletion, global freshwater use, biodiversity loss, interference with the nitrogen and phosphorus cycles, changes in land use, chemical pollution, and atmospheric aerosol loading". Danowski and Viveiros, *The Ends of...*, 9.

[16] According to Lovelock: "There are arguments about when this epoch began. Some put it as long ago as the first appearance of *Homo sapiens*, others as recently as the first atomic explosion in 1945. For the moment, it is not even generally accepted as a geological epoch. Many insist we are still in the Holocene […] when the last ice age ended. Before that was the Pleistocene […] and the Miocene […] If we accept the Anthropocene, as I believe we should, the ages are getting shorter again". Lovelock, *Novacene. The coming…*, 42-43.

[17] Subcommission on Quaternary Stratigraphy (SQS), "Working Group on the 'Anthropocene'", *Quaternary Stratigraphy*, March 26th, 2024. http://quaternary.stratigraphy.org/working-groups/anthropocene.

[18] *Ibidem*. *Cfr.* Érika Montejo, "Lago Crawford: el sitio tranquilo en Canadá que ha marcado el comienzo del Antropoceno", *National Geographic en Español*, 12 de julio, 2023. https://www.ngenespanol.com/el-mundo/el-lago-crawford-ha-marcado-el-comienzo-del-antropoceno

[19] Hereafter the acronym of origin (AWG) will be used as a reference to the Anthropocene Working Group.

indicates that radioactive matter links deep (geological) time and historical (anthropological) time; and in turn: the crossing of two ontological planes, that is, the encounter between the reality of moral practices and ideologies (traditionally delimited under the rubric of the *human spirit*), and the reality of a robust materiality with properties not dependent on human interpretation or constructivism (a realm traditionally delimited as a world without subjectivity).

Linking historical time with the time of the 'great outdoors': realism of denied materiality

As will be seen in greater detail later on, the problem enunciated in this juxtaposition of planes demands rethinking the foundations of philosophy. In this respect, the emergence of the new realisms in all their variants does not seem accidental before the exhaustion of the metaphysics inherited in the humanities. As a brief parenthesis, although the present work does not take up 'New Realism' as the framework for setting the discussion, it is pertinent to introduce Markus Gabriel under the prior consideration that this entanglement of planes could be reformulated in terms of two fields of meaning, from which a specific object would emerge partially conjugating two orders: the symbolic-moral and the realm of natural entities.

This situation is analogous to the one seen by the philosopher regarding the phenomenon of the COVID-19 pandemic, where natural entities were mixed with a series of socio-economic decisions or processes,[20] thus causing various contingencies that damaged countries. Here, it is worth broadening the horizon for the ontological proposal in the New Realism's 'fields of meaning':

> Both metaphysics and constructivism fail because of an unjustified simplification of reality, in which they understand reality unilaterally either as *the world without spectators* or, equally one-sided, as *the world of spectators*. The world which I know is but always a world with spectators, in which facts that have no interest in me exist together with my interests (and perceptions, feelings, and so on). The world is neither exclusively the world without spectators nor the world of spectators. This is new realism. Old realism –that is, metaphysics– was only interested in the world without spectators, while constructivism quite narcissistically grounded the world and everything that is the case on our fantasies. Both theories lead to nothing.[21]

Following on from what has been presented, and starting from neorealist bases, it would be said that the Anthropocene's field of meaning presents a series of objects whose reality involves the apparition of entities with different properties that cannot be reduced to a single ontological

[20] *Cfr.* Markus Gabriel, *La realidad en crisis* (México: Vaso Roto, 2022), 17-35.
[21] Markus Gabriel, *Why the world does not exist,* trans. Gregory S. Moss (Malden: Polity Press, 2015), 12.

principle. However, since the proposal of the AWG involves the demand to situate the golden spike as evidence of global transition, it is relevant to accentuate the temporary and historical character that places at the forefront of philosophy a question about the possibility of thinking a reality without thought (a matter that foresees the search for an argumentative resource or ontological principle). In this discussion of philosophical starting points, as has been suggested, the link between materiality and meaning would not be called into question. For example, it would not be about denying to Crawford Lake its reality as a hybrid object (or to other stratigraphic objects that bring together the general making of human consciousness), as could be pointed out in a 'symmetrical anthropological' reading from Latour;[22] but about stating, in fact, that the isotopic reality of the high levels of sedimented plutonium indicates an *outside of consciousness* (where consciousness itself had its global incidence as a particular factor).

Now, given that the plane of 'human consciousness' entails its deployment in political, economic and social dynamics, the epochal change calls into question the sense in which consciousness (in this case, mostly Western) self-defined itself, driven by an idea of finality that has justified the way of thinking and assuming the human and the non-human. Therefore, sought or not, the AWG's proposal to inscribe the golden spike around 1952 is the statement of a geological phenomenon inextricably linked to the political-economic decisions of the mid-twentieth century. In such a way that the acceptance or rejection of plutonium isotopes' radiation (as stratigraphic indicators) becomes the assumed or denied proof of the ideological failure of projects and visions about the meaning of the world and of history.[23]

As a consequence, a challenge of geology will be in the way of meaning the human activity as a geological force, or in other words, to identify which anthropogenic aspects introduce an artificiality of such magnitude that they permanently modify the patterns of terrestrial processes. So, in this context, inaugurating a new geological epoch means uniting the time of humanity with the deep time of the outside, and to answer which are the particular historical facts that have been universalized to become part of the Earth.

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[22] "The word 'modern' designates two sets of entirely different practices […] The first set of practices, by 'translation', creates mixtures between entirely new types of beings, hybrids of nature and culture. The second, by 'purification', creates two entirely distinct ontological zones: that of human beings on the one hand; that of nonhumans on the other". Bruno Latour, *We have never been modern,* trans. Catherine Porter (Cambridge: Harvard University Press, 1993), 10-11.

[23] Cfr. "The choice of beginning date —from very remote (since the appearance of Homo faber) to quite recent (since the industrial revolution) or very recent (since the Second World War)— correlates with profound political and moral differences. The more remote the date, the less the current forms of capitalism are at issue and thus the more responsibilities are diluted". In Latour, *Facing Gaia. Eight*…, 250.

Finally, it is inevitable to wonder about the status of the AWG's proposal (with its golden spike in Crawford Lake), and to pay attention to the official response of the Subcommission on Quaternary Stratigraphy. Last March 2024, after several years of debate and analysis, the proposal of the AWG to declare the Anthropocene Epoch as a formal 'Geologic Time Scale' unit was rejected.[24] What were the reasons? Broadly speaking, the press reports summarize that the golden spike of plutonium isotopic radiation is too recent to be established as a magnitude of global geological alteration, so that the human impact on the planet should not be restricted so narrowly in historical terms.[25] This implies, among other things, that while not denying the large planetary impact of modern life forms, it does reject this as the generalizable factor over the globe.

In other words, the present biogeochemical condition of the planet has been categorized as a 'geologic event' still within the Holocene. Hence, terrestrial patterns are still understood within the expected variable ranges due to human activity since the emergence of agriculture, domestication of animals, early civilizations and the manufacture of more innovative artifacts or technological objects. An issue that, given what has been suggested earlier in this article, maintains significant political connotations.[26]

Note that, in the face of the implications of plutonium as a golden spike, the rejection of radioactive isotopes as indicators of the Anthropocene makes clear the denial of a premise: to this extent, material reality (or the ontological materialism of a posthuman outside, or the fact of a consciousness *converted* into a stratum beyond subjectivity) does not present the property of being the result of a specific and particular catastrophic policy. Rather, the alleged golden spike is the result of an event within various organizations of life by the *nature* of human artificiality. So, it can be surmised that what emerges from the radioactive material is just a

[24] The original reads: "It is with the delegated authority of the IUGS President and Secretary General and on behalf of the International Commission on Stratigraphy (ICS) that the vote by the ICS Subcommission on Quaternary Stratigraphy (SQS) to reject the proposal for an Anthropocene Epoch as a formal unit of the Geologic Time Scale is approved. March 26th, 2024", in Subcommission on Quaternary Stratigraphy (SQS), *"Working Group on…"*.
[25] Raymond Zhong, "Are We in the 'Anthropocene', the Human Age? Nope, Scientist Say", *The New York Times*, March 5th, 2024. https://www.nytimes.com/2024/03/05/climate/anthropocene-epoch-vote-rejected.html
[26] *Cfr.* José Luis Granados Mateo, "La ciencia no reconoce el Antropoceno como una nueva era geológica", *National Geographic España*, March 14th, 2024. https://www.nationalgeographic.com.es/ciencia/ciencia-no-reconoce-antropoceno-como-nueva-era-geologica_21813. Note the statement of Stanley C. Finney, Secretary General of the International Union of Geological Sciences (IUGS), regarding the AWG proposal as more political than scientific.

consequence of an ontological property of *Homo sapiens* as a technical being. Therefore, it could be suggested that by rejecting the Anthropocene, certain anthropological principles and ontological properties of technology are also veiledly affirmed.

Despite the above, the radioactive effects on a planet that still retains its deep time became Holocene confirm what speculative materialism, in the figure of Quentin Meillassoux, names as 'ancestrality'.[27] At this juncture, the geological vulnerability of the terrestrial mass (whether in one age or another, the Anthropocene an event among others, or if there is a real epochal change) highlights the need for an ontological rethinking. Even when it can be denied that social activity since the twentieth century has catalyzed an epochal change, the axis of debate revolves around which are the material indications that define a historical time, as for this reason we are presented with a temporal magnitude outside the transcendental conditions of any human experience.

How can we conceive temporal magnitude outside of experience when experience itself is posited as a principle validating this magnitude? Ultimately, it would seem that there cannot be anything without it being first present in consciousness, due to the finite condition of the human being whom to think, necessarily requires the staging of thought itself. However, the impetus of speculative materialism is born in this argumentative condition to affirm that, in fact, the thought of the 'great outdoors' is possible. Following Meillassoux, it is philosophical 'correlationism' that would have to be moved past to find something completely detached from human consciousness, thus overcoming the central notion of philosophy since modernity, which would maintain its metaphysical inertia by continuing to operate under the acceptance or supposed rejection of a *principle of absolute necessity*.[28]

In summary, deep time inferred from materiality places science in the position of presenting propositions whose meanings cannot be reinterpreted by correlationism without their contents being seriously distorted. According to Meillassoux, we understand by *correlationism*:

> The idea according to which we only ever have access to the correlation between thinking and being, and never to either term considered apart form the other. […] Correlationism consists in disqualifying the claim that it is possible to consider the realms of subjectivity and objectivity independently of one another. Not only does it become necessary to insist that we never grasp an object 'in itself', in isolation from its relation to the subject, but it also becomes necessary to

[27] Quentin Meillassoux, *After finitude. An essay on the necessity of contingency,* trans. Ray Brassier (London: Bloomsbury, 2010), 6-47.
[28] *Ibidem.*

> maintain that we can never grasp a subject that would not always-already be related to an object.[29]

Hence, one of the problems of correlationism is its inability to account for the ancestral property of materiality, which indicates deep time. The correlationist would link the indicator of such temporality only in relation to the consciousness that ascertains it. That is to say —and placing again Crawford Lake sediments proposed to validate the Anthropocene—, any record of a time prior to human subjectivity has as a condition to be already related to such subjectivity, which makes any temporal record possible. Paradoxical situation! Deep time is presumed, for the correlationist, to be the absurdity of a time before time.[30] This is because "there can be no x without a given of x, and no theory about x without a presupposition of x. If you talk about something, the correlationist will say: you talk about that which has been given to you, and which has been conjectured by you".[31]

It is for this reason that the fossil or stratigraphic record does not represent a strong refutation of correlationism, since it can always be pointed out that geological materials and sedimentation are what they are insofar as they are linked to the human record. However, as witnessed in the diatribe of an epochal change due to environmental patterns or contingencies, the logic of acceptance or rejection of the Anthropocene only makes sense insofar as it affirms the existence of a time prior to the different life forms ascertained during terrestrial system changes. For this reason, Meillassoux's speculative materialism passes from the consideration of *fossils* (as vestiges of prehistoric life) to the ascertainment of an 'arche-fossil', which is understood as follows:

> Not just materials indicating the traces of past life, according to the familiar sense of the term 'fossil', but materials indicating the existence of an ancestral reality or event; one that is anterior to terrestrial life. An *arche*-fossil thus designates the material support on the basis of which the experiments that yield estimates of ancestral phenomena proceed - for example, an isotope whose rate of radioactive decay we know, or the luminous emission of a star that informs us as to the date of its formation.[32]

From observations of materialities that indicate a time prior to any form of consciousness, ancestrality leads to a reality that precedes thought. Therefore, the arche-fossil cannot be

[29] *Ibid., 12.*
[30] *Cfr. Ibid., 25.*
[31] Quentin Meillassoux, *Hiper-caos*, translated from French to Spanish by Jorge Fernández Gonzalo and from Spanish to English by Rossángeli García Ramírez (Salamanca: Holobionte, 2018), 24.
[32] Meillassoux, *After finitude. An…*, 20.

reinterpreted with the aim of reducing it to the conditions of the subject's access to the world, as the only argumentative way out would be to assert that the knowledge of that outside would be something absolute (and completely detached from consciousness), which falls into a self-contradiction (by registering time as a product of subjectivity) or into a naive realism of a metaphysical and dogmatic character.

In consonance with the problem posed, Meillassoux's new materialism is recognized as 'speculative' in attempting to access a *non-metaphysical absolute*. It is speculative in the sense that it seeks an absolute without postulating it as an entity or a universal law linked to a principle of sufficient reason. Therefore, speculative materialism maintains as a premise to secure statements about ancestrality without returning to the metaphysical dogmatism of a necessary absolute. In the words of the philosopher: "*we must uncover an absolute necessity that does not reinstate any form of absolutely necessary entity*. In other words, we must think an absolute necessity without thinking anything that *is* absolutely necessary";[33] this implies that not by seeking the absolute one is dogmatic, and that one can pursue an absolute thought without being an absolutist.

Now, by recapitulating and observing the tensions between particulars and universals, the following could be synthesized: the arche-fossil is precisely that which manifests a deep time in contrast with the historical time of human subjectivity; it is the particular phenomenon that indicates a universal condition prior to consciousness. But it is worth asking here about this supposed 'universal condition', since the *great outdoors* or the absolute would not be determined by any necessity. What kind of absolute necessity could not be deterministic to the point that it avoids something that *is* an absolute necessity? In speculative terms, what absolute truth can be formulated without establishing something necessary?

In the debate on the Anthropocene, the interplay between the particular and the general arises regarding the discussion of what signals a change of epoch, that is, regarding the series of particular phenomena that confirm a planetary condition. From a radicalization of this scientific materialism, speculative materialism could argue that sedimented plutonium points to something independent of thought, although this material reality is not anchored to an absolute principle of necessity. Meaning, the ontological properties of an element like plutonium would not be necessary, but contingent. However, speculative materialism does not lead to the rejection of a chemical reality, rather, by formulating real properties of radioactive

[33] *Ibid*..., 45.

isotopes and their effects on the environment, it denies a metaphysical principle of absolute necessity, in the sense that it establishes that there is a reason why the materiality of plutonium *must* exist and *must be* in a certain form. In other words, according to speculative materialism, materiality is not anchored in a metaphysical principle of necessity, so it is not necessary, but contingent.

From the above, the speculative journey arrives at the premise of facticity, "the absence of reason for any reality; that is, the impossibility of providing a fundamental basis for the existence of any being".[34] Accordingly, neither deep time nor the materiality of terrestrial systems, nor stratigraphic indicators are absolutely necessary, but only conditionally needed. While these aspects of reality might be regulated by general patterns or laws (as the case may be), the laws themselves lack foundation: they are also contingent.

As can be seen, the refutation of correlationism leads to the recognition of a reality without thought, to something absolute and completely detached from any consciousness; provided that the absolute is, at the same time, contingent, in other words, that it is not anchored in a principle of necessity or sufficient reason. At this point, the following question arises: *how is such an apparently contradictory assertion possible?* The answer lies in the very possibility of the question, in its contingent aspect. Specifically, in its *non-facticity*.

If facticity refers to the absence of absolute necessity, then the only necessity is facticity itself: the *non-facticity of facticity*, "the absolute absence of reason for any reality, be it an event, a thing or a law".[35] Then, the speculative essence of this form of facticity refers to a universal but not metaphysical principle: 'factuality', the necessity of contingency or necessary contingency. In the precise words of Meillassoux:

> The principle of factiality can be stated as follows: only facticity is not factual – viz., only the contingency of what is, is not itself contingent […] the principle of factiality does not claim that contingency is necessary; its precise claim is that contingency alone is necessary – and only this prevents it from being metaphysical.[36]

That said, supposes the negation of a principle that is not factual. The necessity of contingency warns, therefore, that materiality is a fact, and as such, it is not necessary in a restrictive way. Hence, the *outdoors* is such a hyper chaotic becoming that it could stop at any moment without

[34] Meillassoux, *Hiper-caos*, 39.
[35] *Ibid.,* 42.
[36] Meillassoux, *After finitude. An…*, 128.

any necessary reason or motive.[37] As such, bringing up the tension between the particulars and universals of the Anthropocene, the ancestral condition of geological statements leads to a deep time ratified by the very debate of the causes of terrestrial changes. And this also announces, by the way, the relevance of analyzing, understanding and overcoming those anthropocentric glimpses that lead some philosophies.

In addition to this, speculative materialism presents a critique of the supposed ontological principles of contingent objects and phenomena that often overlook a lack of reason and necessity. At this point, for example, the particular fact of the possible golden spike in the form of a radioactive isotope serves to reaffirm that neither an essence nor a political finality follows from reality itself. Therefore, the debate cannot revolve around whether the Anthropocene is a fact only if it corresponds to the evolutionary inertia of human activity as a whole, which would have inscribed the essence of a technological procedure with unique and specific purposes. In this sense, the political philosophy that sees the Anthropocene as a mere geological event, and considers it as an exclusive part of a process within the variable ranges of anthropological artificiality, is already a failure. This is because the causes of the acceleration towards environmental collapse respond to discreetly identifiable socioeconomic dynamics.

Vulnerating the anthropic principle through speculative materialism: the metaphysics of Gaia and the cyborg Novacene

Despite the above and how the trace of the human footprint beyond subjectivity in a hyper chaotic reality can be argued from speculative materialism, the defense of the Anthropocene as a true new geological epoch does not automatically imply the rejection of the metaphysics of a political form of human activity. What is the same: to advocate that the Anthropocene is a reality produced by a political and socioeconomic guideline of specific life modes, does not mean rejecting the premise that the epochal change it forewarns belongs to an evolutionary process, apparently necessary, to give rise to a planet that produces more intelligent forms of life, with inorganic artificialities capable of lessening entropy and achieving greater advances in avoiding the loss of information.

As an example, metaphysics implicit in the approach of the Earth as a macroorganism with its own ontological characteristics that define the planet as a self-regulating global system

[37] Meillassoux, *Hiper-caos,* 48-50.

in constant feedback: the famous Gaia hypothesis of James Lovelock.[38] The scientific controversy regarding this hypothesis lies, among other things, in the intrinsic problems derived from assuming the planet as a macrosystem arranged for the existence of living beings. Lovelock argues that Gaia is a kind of physiological system whose unconscious purpose is the chemical and climatic regulation for the development of life. Moreover, its objectives are adjusted to the environment and the forms of life of each epoch, integrating the animate and the inanimate in an inextricable interrelation.[39]

In other words, the *Gaian* vision suggests that the Earth is a living organism, which differentiates it from the other planets of the solar system. Therefore, its ontological properties make it the representation of an anthropic principle, conditioning the information processes (in a thermodynamic sense) that sustain the transforming dynamics of energy, making possible the birth, development and history of organic and inorganic life.

It could be noted: while Meillassoux finds in particular phenomena (such as the arche-fossil) a discussion on the general possibility condition for ancestral scientific questions (arriving then at the necessity of *facticity* and the denial of a principle of sufficient reason), Lovelock, on the other hand, finds in particular phenomena the general condition of a planet self-regulated by the effect of an *anthropic principle*. This condition is based on a singular distinction of the Earth, anchored in a regulatory principle necessary to sustain life forms, to the extent of shaping the evolutionary transition from organic to inorganic life.

Due to these conceptions, James Lovelock sees in the Anthropocene a consequence of the advances that life has achieved in relation to the transformation, use and processing of electromagnetic energy. Briefly: in the *first phase*, energy went from solar radiation to biochemical energy thanks to the cellular metabolism of photosynthetic bacteria and then of plants; in the *second phase*, solar energy gave way to work energy when, in 1712, Thomas Newcomen created the steam engine as an efficient energy conversion device, thereby initiating

[38] "The so-called Gaia hypothesis, elaborated in the 1970s, mainly by James Lovelock (born in 1919), a brilliant British chemist specialized in the knowledge of the atmosphere and its pollutants, and attracted since his participation in special NASA programs to the study of the regulatory mechanisms existing both in the gaseous and in the liquid medium (i.e., to the importance of the 'chemical biosphere') [...]. Since this interpretation [of the Earth as a system that characterizes the maintenance and development of life] endows the planet —'a self-organized living supersystem'— with functional and 'wise' life, Lovelock chose to baptize it as *Gaia* (Gaia, or Mother Earth)". In Pedro Costa, *Manual del crítico de cultura ambiental* (Madrid: Trotta, 2021), 47, trans. Rossángeli García Ramírez.

[39] The synthesis of the characterization of Gaia can be referred to Lovelock's own words in the chapter "*What is Gaia?*". James Lovelock, *The revenge of Gaia* (London: Penguin Books, 2007), 19-49.

the Anthropocene. So today, as we are about to enter the *third phase*, sunlight is converted directly into *information*, giving rise to the 'Novacene'.

Before delving into this last phase, it is essential to recognize that the logic behind the approach consists of the following: the Anthropocene is a product of the evolution of intelligent life, although its acceleration is linked to the implementation of mechanical devices in the development of industrialization. For this reason, Lovelock argues "we must abandon the politically and psychologically loaded idea that the Anthropocene is a great crime against nature".[40] This is because the Anthropocene represents only the second stage in the processing of solar energy, being a transition from the invention of electronics to the birth of future inorganic life.

Ironic as it may seem, this Lovelockian view does not endorse the current form of energy and environmental policy, or socioeconomic activities are going well in any way. Instead, it highlights an inevitable transition from energy conversion into information, which must be wisely adjusted to avoid threatening the Gaia system. Accordingly, an anthropic principle is employed to support an evolutionary sense characterized by a reduction of entropy and, consequently, in the purpose of transforming the universe into information.[41]

As will be seen, this computational conception of the universe is derived from Boltzmann's anthropic interpretation of physics, so that Lovelock understands information as the fundamental property of the universe.[42] However, in this course of the approach, one of the most controversial suggestions of the Gaian conception is reached: if the universe tends to

[40] Lovelock, *Novacene. The coming*..., 71.

[41] It is worth recalling the connection between *life*, *organization*, and *artificiality* that can be found both in the philosophical starting points of *terraforming* projects and in the principles inscribed in the anthropic vision that would give way to the Novacene. Here, it would be appropriate to evaluate the way in which these conceptual interrelationships show a cybernetic conception of the cosmos in terms of life production and entropy reduction.

[42] Lovelock grants special importance to information theory and cybernetics, starting with the work of Shannon. See: Lovelock, *Novacene. The coming*..., 85. However, it is convenient to bring to the forefront that cybernetics, from its foundations, considered a relationship between *information*, *communication*, and *entropy*. It is here that philosophically a kind of *flattening* between the human and the non-human can be elaborated, insofar as humans, animals, and robots can be analyzed from a 'theory of regulation' by the production of signals. Concerning all these conceptual notions, the words of the founder of cybernetics may be useful: "In giving the definition of Cybernetics […] I classed communication and control together […] When I give an order to a machine, the situation is not essentially different from that which arises when I give an order to a person […] To me […] the fact that the signal […] has gone through a machine rather than through a person is irrelevant and does not in any case greatly change my relation to the signal. Thus the theory of control in engineering, whether human or animal or mechanical, is a chapter in the theory of messages […] The commands through which we exercise our control over our environment are a kind of information which we impart to it. Like any form of information, these commands are subject to disorganization in transit […] In control and communication we are always fighting nature's tendency to degrade the organized and to destroy the meaningful; the tendency, as Gibbs has shown us, for entropy to increase". In Norbert Wiener, *The human use of human beings. Cybernetics and society* (London: Free Association Books, 1989), 16-17.

become information against entropy, then its materiality leads to a conscious and intelligent cosmos. In this sense, the Anthropocene merits the observation of an epoch in which *Homo sapiens* achieves an informatic development that is on the verge of giving birth to new electronic lives (cyborgs) with hyperintelligence. The Novacene, then, is the new geological epoch following the Anthropocene, in which computers design themselves, being able to reproduce themselves through 'intentional selection', and leading the universe to a more complex self-awareness due to the transformation of its materiality into information. In the author's words:

> We shall be parents of the cyborgs and we are already in the process of giving birth. […] Cyborgs are a product of the same evolutionary processes that created us. Electronic life depends on its organic ancestry. […] The arrival of the cyborgs and the Novacene will be further evidence of the two great issues […] are we alone in the cosmos and is the entire cosmos destined to attain consciousness? […] Perhaps, if the cosmic anthropological principle is correct, they will be the start of a process that leads towards an intelligent universe. By setting free the cyborgs, there may be a small chance that they will evolve able to complete the purpose of the universe, whatever that may be. Perhaps the final objective of intelligent life is the transformation of the cosmos into information.[43]

In line with the above, Lovelock's 'computational materialism' does not advocate 'human exceptionalism'. He conceives of *Homo sapiens* as intelligent organic life that, due to its energy conversion activity, is in a position to lay the foundations for more intelligent life, simply by contributing to the evolutionary process of a universe that seeks to grow in information and consciousness, battling entropy. Lovelock also argues for the term *Anthropocene* beyond the evidence of analytical chemistry because following the implication of the Gaia hypothesis, this geological period is confirmed in the transformation of solar energy into work, thereby increasing the intensity of life on Earth in the form of technological artifacts, cities, and urbanity.[44] In this sum of particular phenomena, the author sees the general condition of a macro-system self-regulated and fed back by the inertia of an anthropic metaphysical principle, which —it could be said— manifests itself in the evolutionary achievement of different epochs from a deep and distant time.

[43] Lovelock, *Novacene. The coming*…, 113, 116-118.
[44] *Cfr. Ibid.,* 42-43.

The realist path to new universals: conclusive estimations from cosmotechnics and xenofeminism

The examination of the Gaia hypothesis, the anthropic principle and the idea of the Novacene, confirms, for the purpose of this article, the tension of three engagements between particulars and universals, as well as the way in which these are linked to three forms of vulnerability: planetary, human and technological.

Up to this point, it has been necessary to delve into the vicissitudes of planetarity in the stratigraphic discussion of the Anthropocene. However, it is worth concluding with the global vulnerability of the Earth passing to that of the human being, but through technological vulnerability. To this end, Lovelock's reading forces us to two considerations: a) inorganic electronic life needs temperature regulation, and b) an anthropic metaphysical principle may contribute to machines being subjected to a cyborg model alienated by human intentionality. So, to address this *particular-general* tension of the human and technology, it will be appropriate to end with a brief cosmotechnical and xenofeminist appreciation.

Regarding the above consideration of the first clause (*a*): with an estimate on the thermostatic equilibrium, Lovelock analyzes that life on Earth would be unsustainable at a temperature higher than 50 °C. This fact, he argues, is fatal to all forms of human and non-human life: although electronic compounds could withstand up to 200 °C, cyborgs could not live on a planet with solar overheating because the environment would be fatally destructive.[45] This way, the vulnerability of the planet reduces the overall possibility of post-human life. However, as for the second clause (*b*), the anthropic principle delimits cyborg development from a universal purpose of technology. And at this point, ironically, it falls back on the same problem observed in the argument against the Anthropocene by stratigraphy, when it affirms the effects of human activity as part of the general ontological properties of technology.

It is worth remembering that in this text it was noted how the scientific rejection of the Anthropocene implies affirming an anthropological principle and an ontological property of technology, since the moment *Homo sapiens* is assumed to be a technical being, a margin of variability of artificial impact on the world is conceived. Therefore, the problem does not lie in the relationship between *human* and *technique*, but in the naturalization of a general and universal sense of particular technologies and their finalities. It is in this problem that the

[45] *Ibid*., 101.

philosopher Yuk Hui's concept of 'cosmotechnics' sheds light on the tension between a particular and a universal conception of technology.

As follows: if in (*b*) a vulnerability of machines is alleged, it is primarily because the anthropic principle Lovelock uses justifies a metaphysical thesis of technology, making it vulnerable to the subjection of a human projection in a crisis of environmental collapse. In other words, the cyborg model itself is violated by an ontological thesis of the world, of the human and of technology. Strange as it may seem, under this reading it could be declared that the *ontogenesis* of the cyborg is compromised —and even eclipsed— in its potentiality.[46] Similarly, technology itself finds itself in the inertia of a metaphysics that conceptualizes it in a universal and hegemonic way, restricting its development to what it supposedly *is* and *must* achieve in terms of the interplay between intelligence and information by evolutionary intentionality.

Given this problem, it is pertinent to extract anthropocentrism from the technological universal. *Cosmotechnics*, by the way, is a significant advance for this purpose. According to Hui, cosmotechnics is "the unification of the cosmos and the moral through technical activities, whether craft-making or art-making. There hasn't been one or two technics, but many cosmotechnics".[47] In other words, the tension between the particular and the universal in technology is resolved with a cosmopolitical premise. This implies understanding that the technological universal reflects a human tendency to produce technical facts, but that, because of the facts themselves, technical products are always particular, contingent, and situated in contexts with specific cosmic and moral visions.

In synthesis, the reconciliation of the particular-universal tension of technology is facilitated by understanding that technical facts are an anthropological tendency that responds to a multiplicity of locative senses, which hinders a philosophical framework to designate a technology as the very product of an evolutionary purpose. Now, given that technology is divided into locative uses and the notion of *Homo sapiens* constitutes a technical character, it

[46] Indeed, 'left accelerationism' in the figures of Nick Srnicek and Alex Williams (described as *speculative realists*) draws attention to how the current condition of technological development remains bounded by capitalist purposes, so that the latent potential of technology must be unleashed: "The existing infrastructure is not a capitalist stage to be smashed, but a springboard to launch towards post-capitalism. Given the enslavement of technoscience to capitalist objectives [...] we surely do not yet know what a modern technosocial body can do. Who amongst us fully recognizes what untapped potentials await in the technology which has already been developed? Our wager is that the true transformative potentials of much of our technological and scientific research remain unexploited, filled with presently redundant features (or pre-adaptations) that, following a shift beyond the short-sighted capitalist socius, can become decisive". Nick Srnicek & Alex Williams, "#ACCELERATE MANIFESTO for an Accelerationist Politics", *Critical Legal Thinking,* May 14th, 2013. https://criticallegalthinking.com/2013/05/14/accelerate-manifesto-for-an-accelerationist-politics, pars. 18-19.

[47] Hui, *Cosmotechnics as cosmopolitics*, par. 26.

is pertinent to show the particular-universal tension in the definition and meaning of the human. In this respect, *xenofeminism* (XF) becomes an unavoidable perspective to consider.[48]

Inherited from speculative realism, xenofeminist philosophy can be synthesized as an effort to develop a left-wing accelerationist feminism.[49] This acquires a theoretical and practical body driven by three general premises: a technomaterialist vision, an anti-naturalist approach and a gender abolitionism. On the first point, technology is seen as a tool for political activism and the design of new material conditions; on the second, the 'natural' is thought of as a space for intervention, rejecting the idea that it is a limit (or a destiny) that establishes a normative framework for the reproduction or worth of certain corporealities (opposing in this way some ecofeminist theses of Maria Mies and Vandava Shiva); and, finally, in the third premise, abolitionism is understood as a search to transcend the gender system, so that it ceases to operate as a mechanism of oppression; therefore, in this aspect, xenofeminism insists on overcoming the restrictions associated with gender identities, seeking for them to flourish in a multiple manner.[50]

On this horizon, it is appropriate to take up again the xenofeminist premise of constructing a universal considering the generality of the biological, since organic materiality can be altered in a particular way by its plastic condition. In other words, xenofeminism advocates a *technopolitical anti-naturalism* that does not deny biological reality as such, but

[48] The link between the cosmotechnical and xenofeminist perspectives is achieved by the cosmopolitical mediation that emphasizes the effort to integrate the particular and the universal, with the aim of breaking with false universals and considering navigational strategies of sociopolitical action in a monotechnological world. Nevertheless, for a more detailed analysis of the encounters and disagreements between the cosmotechnical approach and accelerationist premises (both in their left- and right-wing and xenofeminist strands), and the way in which these can be coherently synthesized in an 'anthropological abolitionism', see Michell G. Parra-Alvarado, "Directrices para llegar al planteamiento de un abolicionismo antropológico", in *Límites del globalismo tecnoliberal cosmopolita. Ciudadanía, espacio público y digitalización,* eds. Jorge León Casero y Míkel Martínez Ciriero (Madrid: Dykinson, 2024), 209-224. https://doi.org/10.14679/3202

[49] It deserves to be said that, in its beginnings, xenofeminism was described in a 2015 manifesto signed by the "author" Laboria Cuboniks. This name, in fact, responds to the anagram of 'Nicolas Bourbaki', the famous pseudonym of the collective of French mathematicians of the last century committed to examining the foundations of mathematics. Similarly, the Cubonkis collective was originally a multidisciplinary group of women with backgrounds in philosophy, experimental art, technology, archaeology and literary theory: Helen Hester, Diann Bauer, Amy Ireland, Patricia Reed, Lucca Fraser and Katrina Burch. Now, it can be summarized that xenofeminism emerged as a response to the accelerationist analysis of technological mediation. Thereby, it is a feminism that understands a technopolitical and technomaterialist turn as an appropriate form for emancipation and gender justice. Accordingly, it discusses a continuum ranging from CCRU studies with Sadie Plant and Nick Land, to Braidotti's posthumanism, through the cyberfeminisms and cybercollectives of the 1990s, such as VNS Matrix. In the words of Helen Hester, "Xenofeminism, or XF, can to some extent be viewed as a labour of bricolage, synthesizing cyberfeminism, posthumanism, accelerationism, neorationalism, materialist feminism, and so on, in an attempt to forge a project suited to contemporary political conditions". Hester, *Xenofeminism*, 1.

[50] *Ibid.,* 11-32.

rather questions it as a necessary destiny for every form of human life.[51] Thus, the incorporation of technical facts into (always alienated) bodies means the achievement of general forms of life that build their own freedom.[52]

Consequently, from xenofeminism, the field of anthropology becomes a field of plastic magnitude where new policies aiming at the universal emerge. So, it can be understood that the three forms of vulnerability (planetary, human and technological), linked to the tensions between the particular and the universal, must focus their discussion not on those discourses that construct reality, but on which theses are more adequate and pertinent due to the properties of this one.

Considering the above, the 'postcorrelational' planetary, anthropological and technological design invites us to consider a radical contingency that enables practices conditioned by specific 'figures' of reality, or "*particular conditions of facticity*".[53] In this way, the making of the world hovers over the recognition of ontological properties that, although plastic, reveal themselves with a certain independence of historically assigned universal meanings. Hence, this situation is far from considering a reality anchored to a universal metaphysical principle or as the simple result of political and discursive practices that make of ontology a mere register of our consciousness.[54]

Finally, the new realisms and materialisms, cosmotechnics and speculative realisms propose an ontological reframing of design and the search for the development of inclusive universals, beyond the constructivist formula that would reduce the planetary, the anthropological and technology to mere ideological vulnerabilities in dispute. In other words, philosophy seems to enter into the ontological investigation of *golden spikes* that resolve the tensions between the particular and the universal, the global and the local, with the aim of designing a posthumanity that highlights the malleable properties of the world, of the human being and of technological tools.

Perhaps, the general sense of these statements can be summarized in a reinterpretation of the words that Helen Hester devotes to the meaning of the prefix 'xeno'. Ironically, it could

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[51] "Xenofeminism does not deny that there is a biological stratum to embodied reality, for example – that certain bodies have different susceptibilities and capacities […] What is does dispute, however, is the idea that this stratum is immutable or fixed simply because it is biological". *Ibid*., 20.

[52] In the xenofeminist manifesto we read: "Technoscientific innovation must be linked to a collective theoretical and political thinking in which women, queers, and the gender non-conforming play an unparalleled role. The real emancipatory potential of technology remains unrealized". Cuboniks, *"Xenofeminism: A politics…"*, pars. 3-4.

[53] Meillassoux, *Hiper-caos,* 47.

[54] Gabriel, *Why the world…*, 72-74.

be stated that the tensions that run through the humanities have the potential to indicate that the search for universals refers "not only [to] its inclusiveness and openness to difference, but [to] its strangeness regarding itself, by [conceiving itself] as a revisable project subject to continuous examination".[55]

[55] Toni Navarro, "Presentación", in Helen Hester, *Xenofeminismo. Tecnología de género y políticas de reproducción,* translated from Spanish to English by Rossángeli García Ramírez (Buenos Aires: Caja Negra, 2018), 11.

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