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The Human is Not in Space. Humankind is in Space

Brad Tabas
Ethnographies of Outer Space Seminar
Jagiellonian University, Sep 2024
Krakow, Poland.

1. Philosophical Anthropology

The human is not in space. Humankind is in space.

The two phrases together, and the first alone, can appear nonsense. A playful paradox or a false pair of propositions. If followed by an exclamation point—‘the human is not in space!’—may be an injunction and warning against space exploration. Perhaps the anthropo-metaphysical term ‘the human’ is an ingredient for building a derisively ‘philosophical’ problem, what Wittgenstein called a “*Luftgebau*” (2003, 344), a house on air. The second phrase seems more self-explanatory. Simply true. Humans have been to the Moon (they are going back), they are aboard the International Space Station (ISS). Space tourism is a thing. Prosthetically, our technosphere is out there: we depend vitally on satellites orbiting the Earth. They are critical planetary infrastructure. Even if human bodies never, ever, colonize Mars or dwell on Luna, what Schmitt decried as a “spatial revolution” (2008) has occurred: to be here in the Anthropocene is to live after a great bifurcation which has left human beings within the planetary biosphere, but which has resulted in a massive extension of the technosphere out into the solar system.

Leaving aside the strangeness of *the human*, the juxtaposition of the pair remains odd. Yet the two statements taken together are not nonsense. These pages are addressed to Astrocritics, to scholars in the Social Sciences of Outer Space, to members of the Critical Space Studies community, to those interested in Science and Technology Studies, but also, and I think more generally, to those interested in Philosophical Anthropology, but maybe also, to humans interested in humankind. Beings on Earth living through a Post-Planetary Age. In an epoch in which we are no longer constrained to experience space from within the horizons of a planetary enclosure in which the boundaries between Earth and Heaven are a biblically mandated absolute ground. Beings for whom what is truly Outer Space is no longer coherently located above the ground or even outside the atmosphere, but farther out, way farther out, beyond the vasts of an already inter-planetary technosphere. But beings who still live on a frying Earth.

Alexander Geppert and I have dubbed the cultural and historical process of coming to understand the human and the planet within this post-planetary paradigm planetization. This is an essay on the philosophical anthropology of planetization. Early philosophical anthropologists such as Max Scheler (2018) were interested in establishing the place—Scheler spoke of the “*Stellung*”—of the human being within the cosmos. Before Sputnik, that place seemed obvious and absolute: Earth. More recent work has suggested that thinking about the planet “decenters the human” (Chakrabarty 2021, 3), transforming him into a tiny element in a planetary scale ecosystem, or an even smaller element in an interplanetary scale exosomatic technosphere. I agree with this. Yet I also agree with Hans Blumenberg when he asserts: “*Der Mensch zählt immer*” (2014, 318), the human always

counts, or still re-counts. The human is thus always somewhere in the loop. For Blumenberg, the founder of astronoetics (which he jokingly described as “exploring the far side of the moon by means of pure thought” (1997, 548)), the task of philosophical anthropology involved understanding the changing human descriptions of the human. He localized their only absolute ground in a certain paradoxical and persistent capacity for humans to rationally quest after the ‘essence the human’ despite humanism’s many rationally self-inflicted defeats. “The human is not in space. Humankind is in space” is a formulation of this sort. A self-defeating pair of claims. A survival of humanism and a proclamation of its demise. Yet it is also a serious attempt to describe not so much the human, but the conditions of questing after the human within our Post-Planetary Age.

Why Post-Planetary? Do we not still remain bound to the Earth System for our every need? Does not, or should not, the Earth mean the world to us? Why not extra-planetary, a phrase that signifies our current excess, our exosomatic exorbitance in multiple senses of the term relative to the Earth? A phrase which reminds us of our apparent inability to remain within the world that has been our home, which may simultaneously provide a diagnosis for why we are destroying that home? Perhaps the answer is merely this: speaking of our moment as Post-Planetary makes clear the extent to which what Chakrabarty has called our Planetary Age (2021), the Anthropocene, has been an intellectual construction dependent on our exploitation of extra-planetary space. We developed the notion of the planetary system while exploring other planets and their climatic histories. We made sense of our planet’s limits by studying it by satellite. We discovered Gaia when we looked back on the Earth from orbit. In our distancing ourselves from the Earth, we have also come to ever more clearly understand our dependency on it. It is from the condition of being post-planetary that the planet has come into view, objectively and affectively. Even if we are to find—with Kelly Oliver—that there is “saving power” in the “globalization of the world picture,” a powerful force of affective attraction eliciting care for the Earth, passionately drawing us back to Earth, the factual place of the origin of the planetary can not be repressed (2015, 159). The dawning of the planetary age is a product of the technosphere becoming post-planetary, a function of an augmenting capacity for space exploitation. Moreover, it is when we keep the extraterrestrial in view that the paradoxes of planetization make themselves felt most acutely. It is this estranged strangeness that these two mutually paradoxical phrases attempt to capture. The condition of terrestrial beings in a Post-Planetary Age. It is a contorted and tragic condition, a mode of being poised in the void, undecidably there and not wholly there at once. A critical condition which affects politics, but which also bears on the very conditions of our arriving at a possible form of self-understanding.

The human is not in space. Humankind is in Space.

2. The Human is not in Space

‘The human’ does not refer to a human, but to an understanding of the being of the *anthropos* which might be attainable by human reason. Anthropology in theory, if not always in practice, might be defined as a quest after the human. Philosophy as well. Plato, in the *Theaetetus*, described the philosopher as follows: “The question he asks is, What is Man? What actions and passions properly belong to human nature and distinguish it from all other beings? This is what he wants to know and concerns himself to investigate” (1992, 173b). The answer to these questions could be an articulation of the meaning of human existence, of an essence of humanity, of a

common ground, of a fundamental definition or spiritual principle, of a highest articulation of the meaning of being here.

In practice, the pursuit of the human typically has proceeded as either an internal, subjective, interpretative, or phenomenological exercise, or as a practice of empirical classification taking the human as object of study. Internal definitions are frequently genetic. One begins with an idea, say *Homo Sapiens Sapiens* or *Homo Liber*, and interprets the data—history—in light of this essential pre-conception. The biological, zoological, or medical approaches to defining humankind likewise seem to inevitably operate on knowledge given in advance: one takes what one already accepts to be human and describes it. Diogenes the Cynic famously mocked these approaches by showing that Plato’s description of the human as a “featherless biped” could be taken to refer to a plucked chicken (Laertius 2021, 231). Most scientists today feel they could do better, largely thanks to technological advances allowing for greater granularity. Nevertheless, these types of approaches are often imagined dehumanizing. They overlook that which is special about the human. Meanwhile, subjective approaches are felt to be inaccurate, precisely because they are idealizing, normative. The importance of humanity understood as a value is felt when we attend to its place within our ethical and political theories. To be human is often imagined as acting as one ought, even if being human is often understood as being incapable of so acting without some external constraint (to err is human). The two approaches can seem not only different but latently opposed.

One provisional gloss on the significance of the first term in our paradoxical pair is to assert that the human, understood as a normative ideal of *humanitas*, is not to be found in space. But a second and even stronger claim, taking into account the presence of humankind in space, would be this: that in our post-planetary, the human is no longer to be found. This would seem to imply that when we were planetary such definitions were available, and that the dawn of the Space Age had consequences for thinking about humankind, at least among those whose philosophical thinking descends from Plato. A rather extraordinary late text by Edmund Husserl, *Grundlegende Untersuchungen zum phänomenologischen Ursprung der Räumlichkeit der Natur* [Foundational Investigation into the Phenomenological Origins of Natural Spatiality], suggests this may be the case. Composed between May 7th and 9th 1934, this essay provides one of the most compelling accounts of a fundamental relationship between the human and the planet, which in turn suggests an anthropology which is susceptible to being destabilized by the separation between planet and world which followed Sputnik.

Husserl’s essay is not directly addressed at the question of the human, but it is an expression of his humanistic concern, his anxieties, as he put it in the *Crisis of the European Sciences*, regarding a loss of the “total meaningfulness of humankind’s cultural life” (2012, 13). He saw this as following from the development a certain understanding of the meaning of modern natural science, and even more specifically from the Copernican worldview. What worried him was the fact that humans, and indeed every aspect of the human world, including the planet, are regarded by modern physics as nothing more than indifferent bodies in an infinite space, mere matter floating in nature’s void. Husserl does not aim to debunk the natural sciences, but rather to defend the human viewpoint and what he calls the natural standpoint, everyday reality as he believes human beings experience it. He wants to show that even if science might view the human as nothing, the human viewpoint cannot be viewed as nugatory to the extent that natural scientific reasons depend upon it, non-contingently finding their roots and their ground in the everyday lifeworld. The anthropological dimension of Husserl’s text is at once central and accidental. He wants to show

that all humans, by mere virtue of their being in the world in a way that he imagines to be universal, are first humans, terrestrial beings, and then, on this basis, scientists.

For Husserl, as for much of the tradition, the human remains *homo sapiens*, in his words the “*Vernunftwesen (animal rationale)*” (2012, 16)—the being whose essence is reason or even the literal being of reason. Yet more broadly this being of reason lives in a certain world, has a certain sort of embodiment, and stands in a certain relationship to ground [*Boden*], with the proper name of that ground being Earth. Bruno Latour has a well-coined but difficult to translate word which expresses the essence of Husserl’s vision of the human: the “*terrestre*” (2021, 5). This should not be translated as Earthbound or Earthling. *Terre-estre* suggests something quite different. ‘*Estre*’ is the archaic form of *être*, something like Heidegger’s replacement of *Seyn* for *Sein*. A *terrestre* is a being, in other words, a human—though it is obviously significant that the word employed here is precisely not *the human*—whose essence has been constituted out of a supposed archaic or grounding relationship to the Earth. This relationship to the old Being implies that the new Being, the new “nature” of the physical sciences, is not its home, but that the existence of the latter has as its ontological pre-condition the vital habitability of the former. The Earth-Being is planetary, terrestrial, grounded, *terre à terre*. The Earth-Being is not in space. In fact, for the Earth-Being outer space is not part of nature. It is outside the world. The Earth-Being’s world is characterized by a certain relationship between horizontality and verticality. It has a terrestrial understanding of the natural sphere of action, it comprehends the cosmos otherwise from the way in which it is understood by natural science. It does not imagine that nature extends out into infinity. The planetary globe is the extent of its real world.

Husserl’s essay is articulated around the opposition between the “nature” of the modern natural sciences and the “nature” experienced in the naturalistic posture by Earth-Beings. It does not take seriously the idea one could experience the nature beyond the planet, even if Husserl does imagine and analyze such cases. His motto is “the original-ark [*Ur-Arche*] Earth does not move” (1940, 307). This is a defense of a first principle of rationality and an attack on the Copernican worldview’s understanding of the Earth and the humans on it as bodies moving through space. More proximately it is his rebuttal to Galileo’s legendary justification for the veracity of the Copernican worldview—“*Eppur si muove!* [but it moves!]”. Husserl’s Earth-Beings live in a world constituted of a minimal number of core elements, the first and most fundamental of which is the relationship to Earth. To this he adds living fleshly bodies [*Leiber*] and material bodies which can be displaced and reconfigured [*Körper*]. In addition, his embodied subjects are endowed with transcendental consciousnesses capable of analyzing the relationships between these entities. Husserl claims the first concepts which need to be derived for modern physical science to occur are motion and rest. But he claims that these terms can only emerge against the background of an excluded third term, the Earth or ground [*Boden*], which is neither in motion nor at rest. The Earth, as he explains, is “the original form of representation [*ursprünglichen Vorstellungsgestalt*] neither moves nor rests, for it is in relation to it that rest and movement first make sense” (1940, 309).

For the Earth-Being the relationship to ground is the constitutive concept from which all other rational forms of thought regarding the physical world follow. In this way, modern science depends on the natural human relation to the terrestrial world. Husserl is hardly interested in making this point, but the meaning of *Boden* for the Earth-being can be taken as going beyond the fabrication of physics. As Hans Blumenberg glosses the term, *Boden* refers to that which is

“phenomenologically most profound” in a wide variety of senses, it is that upon which one “stands, builds, plants, practices or experiences an erosion of culture [*steht, baut, anbaut, Kultur ausübt oder Erosion verschuldet*]” (2018, 328). In this sense, we might say that *Boden* contains an entire *phusis*, gives birth to an entire vitalist horizon of associations for understanding the grounded nature of the world of the pre-natural scientific Earth-Beying. As tropological figure siting a dwelling, *Boden* contains an entire ecology within its semantic field. More broadly, one might claim that to understand the being of the human as rooted in the Earth is to understand humanization as nothing more than a process of self-conscious becoming in which the human comes to recognize that the planet and its geological and biological history is latently co-originary and co-extensive with its own essence. In this sense, we can say that the human is on Earth, the being of the human world is literally constituted out of its absolute derivation from the non-dialectical binary relationship between self and ground. *Boden* can be understood as the reality principle driving down to Earth forms of humanism.

And yet humankind is in outer space.

Has the Earth-Beying thus been left behind? What does going to space alter with respect to how we understand the meaning of Husserl’s analyses of the fundamentality of the relationship between the planet and the Earth-Beying? On the one hand, nothing is changed: the idea that bodies in motion and at rest are genetically derived from an excluded third non-body term is so transcendental and abstract as to be untouchable. Yet virtually every other aspect of Husserl’s analysis, the significance of abstractions, does differ.

Husserl was writing well before Sputnik if not necessarily before the Space Age (Geppert 2012). He wrote in a period in which space exploitation had not yet become real, but in which it had begun to seem reasonable. Already in 1931, the philosopher Karl Jaspers had suggested that the “conquest of space using technical means” was conceivable, going so far as to suggest that humankind may be able to “create its own living conditions [*Lebensbedingungen*]” anywhere in the “immeasurable world” (2020, 202-3). Husserl’s essay shows he was aware of these anticipations. He explores variations on the theme of groundedness which could have been lifted from the science fiction novels of Kurd Lasswitz or Bruno Bürgel. He considers the idea that it might be possible “to fly so high that the Earth might appear as a sphere” (1940, 317). He imagines humans travelling on a generation ship away from the Earth. He imagines them placed on the Moon. In all these cases, he freely admits that the Earth could appear as a body, that it might even be seen to move, but that the fundamental relationship with ground would be unchanging. Wherever one went, there one would encounter a constant analogy to the terrestrial ground, a reminder and remainder of the original and foundational relationship to the Earth. Yet reading through these analyses, one realizes that Husserl, rather like much science fiction early and late, displays terrestrial bias, and in so doing he does not properly grasp how these scenarios would change the experience and the meaning of ground, and in turn the meaning of Being an Earth-Beying.

For Husserlian Earth-Beyings the relationship to ground is a transcendental and immobile. It can be transferred—for example when one rolls in a vehicle which becomes the ‘ground-body’ for the traveler—but the concept and the experience is invariant. Yet in outer space, human bodies float. They do not necessarily get their orientation from the ground, but from the ship, from each other, from the Earth floating below them in the distance, or from wherever else they establish as an axis of reference. The astronaut Philippe Perrin explains that when one is in low gravity, “floating far

from a structure” and you want, for example, to turn a screw, “it is not the screw which turns but your body, which unscrews only in the opposite sense. Similarly, if you try to push in a drawer that sticks, it is not the drawer that moves, by you”(2024, 239). Husserl did not anticipate this. These kinds of experiences may not change the idea that the normal condition for human beings remains being terrestrially grounded, and that they interpret these experiences as departures from the norm. But they do change the significance of that norm. *Boden* becomes local, it becomes relational, it becomes non-absolute. Husserl’s reality principle becomes a principle for producing fictions, falsehoods regarding the nature of reality rooted in an anthropogenically-inflected understanding of the nature of nature. With these gaps between anticipation and actualization questions open.

Are astronauts humans, Earth-Beyings, even if their experience of Being no longer corresponds to that of Beying on Earth? This is not a question one poses when one imagines looking down on space from the Being beyond experience of natural science’s transcendental viewpoint. Is that experience of being alienated from terrestrial ground natural or unnatural? Is one in the world or out of the world? The very meanings of these words, just like the meaning of the human seem strained. What is clear is that the meaning of the term ground, which Husserl had previously understood as being non-dialectical, antecedent to the opposition between movement and rest, has suddenly found itself caught up within an economic logic of oppositions which implies that it is no longer henologically sovereign, no longer thinkable as a unique foundation, cause, fons and origo of what it means to be there for a rational animal of the type that humans are. Being in space generates a form of “Earth alienation” which is wholly other than the one imagined, for example by Arendt (1998), in her Husserl-inspired account of the human condition in the age of modern science. It is a form of alienation which depends on technology in a wholly other way than does the telescope, constituting an entirely novel relationship between the human and the technosphere precisely by rendering dialectical the figure of ground. In this reconfiguration a reconfigured sense of realism emerges: the real socio-technical world of the extended space-exploiting technosphere which is not necessarily experienced by the Earth-Beying, and the world which is now the nostalgic dream reality of the Earth-Beying, the shrunken Earth world in the Anthropocene.

Now all that may only seem to retroactively affect his argumentation. It may seem to imply that after we go to space, the Earth-Beying realizes what it did not realize before, namely that it can also be another sort of being, but that it remains most originally, and in this sense most essentially, a being of its home planet. Yet I think that the factual experience of going to space changes more. I think it raises questions regarding Husserl’s just-so story regarding how human beings discovered science and technology, which also depended on a rigid account of the horizontal limit between Earth and Space. Many cultures attribute the origins of science and technology to beings who came down from the sky. For example, the philosopher Yuk Hui points out that Chinese thinkers attribute the birth of technology and science to a gift from three figures: Nuwa (a half-snake, half-human figure), Fuxi (half-human, half-dragon), and Shennong (“divine farmer”)(2016, 14-5). Fuxi and Shennong descend from heaven. Similarly, the anthropologist Ardy Sixkiller Clarke has shown that the first nations people of the Americas tell of “Sky People or Sky Gods that came from the sky, often on a beam of light”(2014, 14). To employ Hui’s terminology, these are different cosmotechnics, different ways of imagining how the natural structure of the horizons of the world informs the becoming of our ideas regarding science and technology. Wiktor Stoczkowski has also explored the very long persistence of ideas of alien visitation from the Gnostics onwards in the West (2022). Such alternative cosmotechnics have different conceptions of reality, and more to the

point, different senses of the impact of technology and the loss of *Boden* on their conceptions of the human. Now one would habitually dismiss all this as nonsense. Yet how nonsensical is it really? To what degree do our dismissals depend upon a dogmatic or blind belief in ground that is itself a cover for a potentially equally dogmatic belief in a certain picture of human rationality?

Consider the case of Avi Loeb, Chair of Astrophysics at Harvard. In 2017, astronomers on *Mona Loa* glimpsed Oumuamoua, an interstellar visitor that flew through our solar system, and after eleven days of intense observation, exited our solar system again in the direction of the constellation Pegasus, travelling at 58,900 miles per hour. Based on his analysis of this data, Loeb wrote a series of papers claiming that it could have been not just a body from beyond our solar system but an extraterrestrial technological artefact. The reactions to Loeb's claim are fascinating. Physicist Marcelo Gleiser has claimed that Loeb's hypotheses make him "cringe," reflecting negatively "on the scientific community as a whole" (2021). Yet Gleiser does not discuss Loeb's data or arguments. His criticisms bear only on the social acceptability of claiming to have found evidence of extraterrestrial intelligence. Loeb's response to this sort of criticism is to remind us that many normatively acceptable scientific theories, including "string theory, types of dark matter, and multiverses" (2023, 4) have no evidence at all to support them, while here, where there is at least arguably evidence, the arguments are not even considered worthy of rebuttal. Loeb's claims are not absurd. As he points out, one only has to accept a symmetry between what we could do and what other intelligent civilizations could have done to see them as both narratively and quantitatively plausible:

Since we know that a significant fraction of all sun-like stars have an Earth-size planet at roughly the same separation, it is likely that Musk-like entrepreneurs created space companies SpaceY or SpaceZ, around other stars, billions of years ago. Sure, Elon is special among humans, but out of the billions of Earth-Sun systems in the Milky Way, there was likely an entrepreneur that ventured to interstellar space (Loeb 2023a).

That does not mean that Loeb is right about Oumuamoua. But he is right that his opponents—and doubtless most people in general—seemingly irrationally refuse to accept that there could be intelligent aliens. This is doubtless deeply entangled with the same web of convictions regarding the nature of rationality and realism which made Husserl believe that his theories regarding the inner life of the Earth-Being are the only plausible account of the universal and natural origins of human science. Yet we do not need to demonstrate that humans learned that the Earth was an object in space from aliens to accept that this is a possibility which cannot be apriori excluded without further investigation. This in turn means that Husserl's account of the necessary genesis to the rational worldview is not so historically necessary. After all, most of us know most of what we know precisely because other beings whom we took to be rational told us so.

All this makes people uncomfortable. Yet what they are afraid of may have less to do with anxiety about aliens than fear of losing their sense of themselves and their understanding of themselves as rational agents. H.P. Lovecraft once wrote:

We live on a placid island of ignorance in the midst of black seas of infinity, and it was not meant that we should voyage far. The sciences, each straining in its own direction, have hitherto harmed us little; but some day the piecing together of dissociated knowledge will open up such terrifying vistas of reality, and of our frightful position therein, that we shall either go mad from the revelation or flee from the deadly light into the peace and safety of a new dark age (2008, 201).

Is the planet of the Earth-Beying Lovecraft's island of ignorance? Unquestionably, the discovery that the heavens are in the world not merely in theory but in practical experience renders this Being's relative lack of ontological imagination evident. The realism of the Earth-Beying was always to a certain degree unrealistic, reductive, particularly when it came to the issue of margins and horizons. But there is little question that within the island of ignorance the Earth-Beying could feel at home, it could feel certain that if there was a rational being with a body that appeared human and was capable of identifying basic laws of physics in a comprehensible language, then this being was human. It could feel certain that to be human, to be in the real world, was to be understood as originally connected and derived with a fixed relationship to ground. It had no need to mince words regarding the *Bodenlosigkeit* of the vast variety of senses which that term might bear. It had no need to believe that to understand itself, even in humanistic terms, a technological supplement had become required to make sense of its world.

Paul Virilio has claimed that in the Space Age humankind attained "exit velocity" and so became decorrelated from its "axis of reference" (2023, 581). While it is false to say that no conception of the human is possible in a Post-Planetary Age, it seems difficult to not admit that the meaning of the human, insofar as the human is understood as constituted by its ontologically foundational relationship to the planet understood as the signifier which gives birth to all other signifiers, finds itself altered. Already in the mid-1960's the philosopher Kostas Axelos had suggested that the human now must interpret itself as "a planet" (2019, loc. 157), with this term suggesting at once that the human had become a wanderer (derived from the original sense of the term planet in Greek), and the apparently autonomous source of its own gravity and relationship to ground. Yet that is an overstatement, itself unrealistic with respect to the history of space exploitation. For Husserl as for much of the tradition of western rationalism, the limit between the planet and its outside is entangled with the horizon separating the anthropological from the transcendental. In transcending the horizon between Earth and Heaven, so too was unsettled the relationship between anthropology and transcendental phenomenology.

The human is not in space. Humankind is in space.

3. Humankind is in Space

It may be tempting to understand the fact that humankind is in space as validating a different anthropology: that of *Homo Liber*. For the human characterized by liberty, the essence of humanity is not conditioned by its being humbly bound to any sovereign, the life and reason giving terrestrial ground, but to be found beyond all conditions but that of the unconditionable will. The experience of being 'not' in space could thus be imagined as expressing the absolute experience of being human understood as an immersive encounter with the negative abyss of freedom. If, as Sartre argued, "existence precedes essence" (2017, 26), then the fact that the human is not in space is no proof against humanism. It is the validation that the anthropological is the transcendental. The human in space is the being that humankind can make itself become, and it most truly and absolutely is within a domain in which each aspect of its existence is a manifestation of its capacity for artifice, each aspect of outwardness a spiritual reflection of its capacity to fabricate dreams into technical know-how.

The idea that human freedom and space expansionism are narrowly intertwined with the one being both the demonstration and the manifestation of the other common is among advocates of

space colonization. As far back as Tsiolkovsky and the Russian Cosmists, space travel has been understood in terms of “overcoming” (2018, 144) the limits imposed on the human to attain higher degrees of spiritual liberation. Bruce Clarke has summed up Gerard K. O’Neill’s ideas on gravity and liberty as follows: “Free space is not only there for free, but it is also free of gravity”(2015, 167). Similar ideas regarding the human as the being capable of being “the maker of one’s world” and most capable of experiencing its own essence as freedom in such worlds (Zubrin 2019, 321) are central to the Astrofuturist rhetoric of the Mars Society. Freedom is also one of the words which astronauts reach for most frequently when describing the experience of being in space. Here is astronaut John Glenn, the first man to orbit the Earth:

I found weightlessness to be extremely pleasant. I must say it is convenient for a space pilot. . . . The fact that this strange phenomenon seemed so natural at the time indicates how rapidly man can adapt to a new environment. I am sure that I could have gone for a much longer period in a weightless condition without being bothered by it at all. You feel completely free (Carpenter et al. 2010, 393).

Similarly, astronaut Charles Walker explained to the psychologist Frank White that his experience in space was accompanied by a feeling of euphoria, which he identified as springing “from the mind’s realization that the reality without gravity is in effect a new dimension of freedom. It is a feeling that new possibilities must be present where physical orientation and visual perception are under control but always variable”(2014, 177).

In short: space is the place where humankind understood as essentially free and beyond essence can most essentially be itself.

Yet in what does this freedom really consist? And is the freedom even the right word to describe the experience of being in space, or is it—like ‘the human’—somehow disoriented in its sense and meaning once one is in space? According to a study carried out by the neuroscientist Jonathan Cole, upon attaining orbit most astronauts cannot sit, close their eyes, and touch their knee (Gallagher et al. 2015, 161). They later adapt, yet the experience of being in space seems to bring the experience of being free painfully close to a total inability to fulfil even the most basic desires. Is this experience of disorientation freedom? If so, the re-orientation that follows as one prolongs one’s sojourn in space suggests that habituating oneself to a free life passes through a continual process of negating the effects of the experience of freedom. This happens in stages. The French astronaut Thomas Pesquet, writing of the learning curve of adapting to embodiment aboard the space station, recalls his experience of adaptation as follows. It first involved shucking terrestrially-conditioned reflexes—an irrepressible desire to “swim” which in itself reminds us of another critique of ground, namely the fact that most of the Earth is not solid ground but water and of the fact that the most original human condition is not that of being grounded but of floating in amniotic fluid. It then passed through a period in which the false belief that one is “expert before one actually is” (2022, 209) takes over, and one consistently finds oneself too ‘free’ in one’s movements, and in consequence, crashes into walls and corners. Finally, having cognitively and physiologically grasped the fact that an absence of gravity does not equal an absence of constraints on embodiment but rather demands an appropriate body schema, the astronaut becomes capable of competently doing ordinary things doable in space as they are done in space.

A similar process of re-orientation occurs with respect to how the astronaut relates with others. Phillipe Perrin recounts that because aboard the ISS no end is up, many novice astronauts are inclined to simply move about in any direction they feel fit, treating the walls as ceilings and so

forth. Yet he notes that for reasons of social decency, including the unpleasantness of coming face to face with other people's hairy legs and reeking feet, the members of the crew have come to treat one end as up, orienting everything, from the trashcans to their own bodies, around a common axis of reference. Surely this emergence of socio-political order might be read as a manifestation of positive freedom, a sign that human beings in space are more free to the extent that they are capable of dictating to themselves an even greater range of normative constraints than on Earth. Yet one can also, as Perrin does, read this as forcing human beings into postures that seem consistent with the idea that being together in space ultimately amounts to an experience of common devolution. As he explains, the only way in which astronauts can hold themselves 'upright' in space is by learning to habitually hold themselves with their feet stuck to the ground, "entangled in the elements of the structure, like chimpanzees grasping branches" (2024, 239). Suffice to say, describing the experience of being in orbital space as freedom as opposed to a sort of sublime disorientation is at the very least question-begging.

There is yet another sense in which humans in space are not free. In one passage of his *The Natural Contract*, Michel Serres evokes the idea that the human is now an astronaut, thrown out of the "entrails of its mother" but connected to Gaia by "cords and strings" (1990, 187, 9). These strings recall both the biological placenta which links the infant to the mother, but also the cables employed by astronauts to hold them to their ships while working in the void during spacewalks. It is a figure which is striking in ways which merit reflection. Yet what it most intuitively illustrates is the radical dependency of humankind in space on the Earth. It is not true that everything that the astronauts need comes from Earth—the energy powering the ship comes from the sun, and lettuce and some other foodstuffs have been grown in space—but it remains the case that life in space without terrestrial sustenance remains unsustainable. Thus, the idea that the experience of being in space is a radical encounter with human freedom seems to flip over into its opposite, as if one were to suggest that the vertiginous experience of being free could only be bought in exchange for a radical demonstration of the fragility and utter dependency of the human on the planet's ecosystem, a profound challenge to the idea that the human even understands the meaning and the use of the word 'free.'

It is possible to go yet further. The novelist Samantha Harvey's *Orbital*, a well-documented thick poetic description of a day aboard the ISS, continually pushes readers to acknowledge the ways in which the manifestation of freedom signified by living in space veers perilously close to a suicidal drive to embrace a living death. She writes, for instance, of the astronauts studying the negative effects of space on "cells under a microscope" and of their dawning realization that "whatever is happening to these cells in their incubator is likely happening to their own, a fact they can't but acknowledge" (2023, 26). Can't but, but presumably would prefer to not to acknowledge. She likewise brings out the fact that being in space, supposedly the highest expression of human freedom, amounts in practice to being reduced to becoming a lab rat, to a pure means towards enabling some hypothetical future form of space humanoid to come into existence:

This six, and those who've come before them, are the lab rats who've made all things possible. They're the specimens and the objects of research who've forged the way for their own surpassing. One day their journeys to space will seem nothing but a coach excursion, and the horizons of possibility that open out at their fingers will only confirm their own smallness and briefness. They swim in microgravity like little watched fish. The heart cells they culture will one day be used to replace those of the slingshotting astronauts bound for Mars. But not their own, which are fated to die. They take blood, urine, faecal and saliva

samples, monitor their heart rates and blood pressure and sleep patterns, document any ache, pain or unusual sensation. They are data. Above all else, that. A means and not an end (2023, 94-5).

Harvey's final phrase recalls Kant's principle of humanity: "act that you use humanity, whether in your own person or in the person of any other, always at the same time as an end, never merely as a means" (1996, 210). Yet these men and women are become rats and fish, they are pure means. They are objects of biological study, humans sacrificing themselves for humanity, they are living towards death in the name of life. In this, they remain human, even paradigmatically so.

But the question arises: to what end are they the means? What if their life in death were a means to killing humanity? What if, in space, the human quest to manifest its freedom as an ethical investment in the future of human life, is in effect, and seemingly by accident, the pursuit of its paradoxical opposite, namely the negation of all existential conditions which could be considered properly human? Perhaps it is planetary life, not human life, while they are working to extend outwards into space?

Our answers to these questions may raise ambiguities. Yet one thing is evident: future humanoids, if they are to live in space, are unlikely to be biologically human. This is a conclusion confirmed by space history, by the long history of sending human beings into space and then treating them like lab rats. The first human beings who went to space were sometimes described as "supermen" (Maher 2017). Yet if they were examples of the racially and gender biased ways in which the Russian and American cultures imagined the right stuff, they were also paradigms of certain medically objectifiable human optimums. The historian Andrew Chaikin, recounting the experiences of astronaut Pete Conrad, writes that NASA "measured everything from his IQ to the length of his lower intestine," noting that it seemed that rather than pilots the objective of astronaut screening was to find "superb medical specimens" (2007, 4). As Cerdiwen Dovey points out, this obsession with perfection was so extreme that "cosmonauts were not even allowed to have a surgical scar on their bodies" (2024, 16). Perfect humans were required because only such beings were imagined capable of conquering space. Yet now decades on, little mystery regarding the powers of human perfection remains. After decades of experiments carried out in space as well as on Earth, the form of being which Ines Geipel has described as the being without "limits," the being whose "body is a projectile capable of being shot into the beyond," the being who can be sovereign over "time and space" (2022, 36), is no longer a being which can be identified as biologically human. Humankind is in space, but the even the ideal human of the past cannot be judged sufficiently perfect. To become properly post-planetary humanoids, to be free to be free, future humans will have to be perfected, they will have to become transhuman. Christopher Mason, one of the NASA doctors who studied the Kelly brothers, twin astronauts, one of whom spent a year aboard the ISS, has concluded that even for a Mars voyage humans should be bio-engineered. Indeed, he believes that it is our "genetic duty" (2021, 12) to do this to ourselves, since only by leaving humankind behind can we properly fulfill our obligations towards a deep future (post)humankind.

Nietzsche was one of the first thinkers to dream about going beyond the human, to imagine that being not-human would be more desirable than being human, to describe the human as a rope or a bridge between the animal and the overman. His voyage beyond the human passed through an experience of imagining the human from an extraplanetary viewpoint. In his early essay *On Truth and Lies in an Extramoral Sense* he describes looking down on the human from beyond,

discovering from that viewpoint humankind is nothing but a “gnat [*Mücke*]” pathetically imagining itself to be the center of nature, “the flying center of this world,” even if, from this perspective, “there is nothing so despicable and small in nature” than this being, puffed up with its own self-importance (1974, 377-8). Striking here is the gap between how he imagines humankind from the viewpoint of outer space and what astronauts see with their naked eyes. Humans have tended to imagine themselves as being greater than they are even in their self-derision. Frequently they, with Sagan, imagine the Earth as seen from space as “a very small stage in a vast cosmic arena” (1994, 6). But that theatre is rather more boring (if no less tragic) than one is in the habit of imagining. To the unaided eye, the human as seen from space does not appear fly-like. Humans are literally invisible.

But in the Anthropocene one can glimpse traces of the technosphere. These are indices of human existence as an ongoing process of biological self-negation. “From the space station’s distance mankind is a creature that comes out only at night. Mankind is the light of cities and the illuminated filament of roads. By day, it’s gone. It hides in plain sight”(2023, 14) writes Harvey. Astronaut Samantha Cristoforetti, whose photographs of the nighttime Earth aim to bring to our attention our propensity for light pollution, concurs, writing that it is only with the coming of darkness that “the sparkling cities, their intricate strands of light mapping out the human presence on the continents” emerge (2021, 289). We may feel that we should interpret these lights as festive, beautiful, stars of our own making. Yet they are also pollution and self-annihilation. We can align them with other signs of human presence that are visible from space: the smoke from fires, the pollution from cities, the shifting shores of landmasses and ice sheets, the massive storms, all the traces of our self-negating tendencies which have come to be the icons of our Anthropocidal mode of being in the world. Yet the lights, perhaps better than any other sign, encapsulate the horror of the Anthropocene condition seen from orbit. Light pollution is a sign of night life, of festivity, of waste, of the pursuit of safety from stalkers, but also of our pursuit of education and humane self-fashioning through lucubration. The lights are outward manifestations of our seemingly infinite desire for energy, for enlightenment, for inner growth. They are an index of our collective trajectory towards collapse. They are the human undoing itself visible from space. They are not us but our technosphere, that thing without which we would not know how to be or who we are.

Humankind is in space. The human is not in space.

4. *Homo Neganthropicus or Homo Bifurcationis?*

Based on the analyses above, one might claim that the post-planetary condition of the human is one in which the being that we are finds itself caught in a double negation: it is neither wholly a planetary being, nor is it a being which can make sense of itself as an extra-terrestrial being.

Bernard Stiegler has suggested that Anthropocene might more properly be understood as the Neganthropocene, imagining this epoch, and its leading actor, the Neganthropos, as an “immense regression”, a moment when all of the manifestations of human freedom and progress dialectically are made manifest as their inhuman opposites (2018, 49). The analyses above explore the outlines of *homo neganthropicus* as they become visible against the extreme backdrop of the post-planetary horizon. They point to at least two respects in which humankind in the Anthropocene understood as a Post-Planetary Age, is not. The human is, in other words, in such a way that allows being to be characterized as being in negation. Being in negation can be understood as being towards self-

negation or annihilation. Yet it can also be understood in a more positive, even affirmative way. To say that the human is in space could mean, to borrow a figure employed by Amanda Du Preez, “spaced out”(2022). That could mean that one is lost, or also that one is surrounded by a kind of positive negativity, a negative which has qualities and a character which are only beginning to reveal themselves historically. To be in space is to be in that placed non-place which we have historically thought of as empty space, the void, the outside, the beyond, or nothingness but within which we can begin now to discern the historicizable contours of a thereness. Nothing in this way improperly becomes a proper name, or the right metaphor, for expressing what, to planetary imaginations, being in space is. That could mean that in space we are to a certain extent found, we encounter not infinite possibility but the traces of a new realism regarding our limits and our mortality.

To consider this proposition, I want to return to Serres’ image of the human as a child partially cast forth from its mother’s womb. Serres’ image might depict the post-planetary condition as a state of tragic undecidability. If Gaia is the mother, and we are already outside, then the return to Earth becomes a classically Oedipal scenario. This tragic dimension in the post-planetary condition is even more obviously the case if we consider Gaia as she is recounted in Hesiod’s *Theogony*. At a certain moment in the becoming of the world she is being continually raped by Heaven. Her children are caught inside her until she conspires with Chronos—Time—to castrate Heaven and liberate them. From this follows the emergence of the subsequent order of things. To return to the Earth would amount to coupling with the mother. To forget that we have been outside amounts to killing Chronos. To put bandages over extra-terrestrial history by pretending that we can return to Earth amounts to gouging out our eyes. The return to Earth involves a repression of that which has after Husserl been understood as the groundless ground constituting subjectivity: the factual contingencies of historical experience.

Less figuratively, we might say that from having seen the Earth from the outside we also know she is not immortal. To return to her, to remove our satellites monitoring the planet from the outside, to cease our experiments aimed at prolonging the possibility of life beyond the planet, is also to return to death, to betray what seems to be the ultimate moral injunction, acting in such a way as to ensure the future of life. The other obvious alternative is no less unpalatable. If we cut the cord, if we engineer ourselves to go off to another planet, we may not escape from the drama. We may repeat the same thing. According to theories of panspermia the other planet could well have been our proper Ur-mother. We would similarly have showed that we learned nothing from Father Time. Moreover, what if the forms of life lived by the astronauts now are precisely the image of the future in space? What if being a science experiment dedicated to realizing the future of humankind is the future of humankind? Could we feel satisfied with the hypothetical artificially generated unending satisfaction that Nick Bostrom describes as “super-pleasure” (2024, 153)? Would we feel it meaningful to call that a free life lived free of the planet?

Perhaps there is an alternative, at least in the meanwhile, in the in-between of our placental moment. Perhaps we can suppose that to find the origins of another future we need only to cope with our horror vacui and learn how to tarry realistically with our now bifurcated existence. We can reflect on our position as neither Earth-Beyings or *Homini Stellari*. We can confront our being as a form of existence in bifurcation, a form of life whose technosphere stands utterly out of alignment with its biosphere, a being whose future, if it is to have a long future, will not be within the sphere that it previously called the world. Perhaps this is the better and more proper sense of the *homo neganthropicus*. Not the human that is necessarily and tragically negating itself. Not the

human that has tragically become alienated from its own essence to the point of rocketing off into post-biological existence. Just simply the human that must encounter the many modes of not, from a perspective in which the original way of imagining the horizon, which had always previously been formed by the structural opposition between Earth and Heaven, is not the real world. There is a sort of maturity that accompanies the experience of living through partial negation. A kind of realism which follows from accepting that life is not always growth. Living is process of denegations, a series of sometimes regretful encounters with the fact that one is not, and cannot be, that which one might desire. A new realism is available to those who wish to think the bifurcated being of the human in the Anthropocene. The Anthropocene is a Post-Planetary Age. It is only after the planet has become a husk of itself that it can emerge as a historical concept. This can only happen after the birth of our understanding of the human becomes unthinkable without its technological extensions.

The human is not in space. Humankind is in space.

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