Pontifícia Universidade Católica
do Rio de Janeiro

Matheus Ferreira de Barros

The question concerning technology in a planetary age - a reading through the work of Peter Sloterdijk

Tese de Doutorado

Thesis presented to the Programa de Pós-graduação em Filosofia of PUC-Rio in partial fulfillment of the requirements for the degree of Doutor em Filosofia.

Advisors: Edgar de Brito Lyra Netto
Pieter Lemmens

Rio de Janeiro,
24 September 2024

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Edgar de Brito Lyra Netto
Advisor
Pontifícia Universidade Católica do Rio de Janeiro

Pieter Lemmens
Co-advisor
Radboud University

Sjoerd van Tuinen
Erasmus University Rotterdam

Ângelo Milhano
Universidade de Évora

Fernando Antonio Soares Fragozo
Universidade Federal do Rio de Janeiro

Luiz Camillo Osório
Pontifícia Universidade Católica do Rio de Janeiro

Rio de Janeiro, 24 September 2024

Matheus Ferreira de Barros

Graduated in Industrial Engineering from UFF (2013), holds a master's degree in Metrology (2015) and in Philosophy (2018), both from PUC-Rio. He has a Ph.D. in Philosophy from PUC-Rio (2024), with experience as visiting researcher at the Institute for Science in Society at Radboud University (Netherlands, 2021-2023). Currently, he works as assistant professor at the Polytechnic Institute of UFRJ.

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Abstract

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It is increasingly necessary to question the phenomenon of technology in the contemporary world. This observation stems from the undeniable technological conditioning affecting the inhabitants of the planet and the current theoretical impasses in the philosophy of technology. This thesis aims to offer, through the philosophy of Peter Sloterdijk, a renewed perspective on technology in its planetary dimension. A unique interpretation of Sloterdijk's work will be presented, with the concept of technology as the guiding thread. Having this horizon in view, we obtain a contextualized reading of essential concepts in Sloterdijk's thinking, such as space, immunology, coming-into-the-world, and anthropotechnics. Another central result is the opening of new approaches to recent topics such as artificial intelligence, the Anthropocene, our political (co)existence, and anthropogenesis. Getting such new perspectives is especially important because the current *status quo* of the philosophy of technology - heavily influenced by the empirical turn - seems to struggle in dealing with technology’s planetary-scale dimension.

Keywords

Philosophy of Technology, Peter Sloterdijk, History of Contemporary Philosophy.

Resumo

Barros, Matheus Ferreira de; Lyra Netto, Edgar de Brito (Advisor). Lemmens, Pieter (Co-advisor). **A pergunta sobre a tecnologia em uma era planetária – uma leitura através da obra de Peter Sloterdijk.** Rio de Janeiro, 2024. 231p. Tese de Doutorado – Departamento de Filosofia, Pontifícia Universidade Católica do Rio de Janeiro.

É cada vez mais necessário questionar o fenômeno da tecnologia no mundo contemporâneo. Esta constatação decorre do inegável condicionamento tecnológico que afeta os habitantes do planeta e dos atuais impasses teóricos na filosofia da tecnologia. Diante desse cenário, esta tese visa oferecer, através da filosofia de Peter Sloterdijk, uma perspectiva renovada sobre a tecnologia em sua dimensão planetária. Será apresentada uma interpretação singular da obra de Sloterdijk, tendo o conceito de tecnologia como fio condutor. Tendo este horizonte em vista, obtemos uma leitura contextualizada de conceitos essenciais no pensamento de Sloterdijk, como espaço, imunologia, vir-ao-mundo e antropotécnica. Outro resultado central é a abertura de novas abordagens a temas recentes como inteligência artificial, o Antropoceno, nossa (co)existência política e a antropogênese. Obter essas novas perspectivas é especialmente importante porque o *status quo* atual da filosofia da tecnologia - fortemente influenciado pela virada empírica - parece ter dificuldades em lidar com a tecnologia em sua dimensão planetária.

Palavras-chave

Filosofia da Tecnologia, Peter Sloterdijk, História da Filosofia Contemporânea.

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Reflection is the courage to make the truth of our own presuppositions and the realm of our own goals into the things that most deserve to be called in question[1].

[1] Heidegger, M. *The question concerning technology and other essays*, p. 116. *Besinnung ist der Mut, die Wahrheit der eigenen Voraussetzungen und den Raum der eigenen Ziele zum Fragwürdigsten zu machen*. Heidegger, M. *Holzwege*, p. 75.

1
Introduction

"Technology has not yet spoken its final word"[2]

With this statement, the philosopher Peter Sloterdijk invites us to reflect on technology. What does it mean that technology still has something to say? Why must we question technology again in our age? Moreover, what is Sloterdijk's contribution to the necessary task of interrogating contemporary technology?

If we examine the most apparent tensions facing modern societies, we notice several voices expressing opinions on *how technology should be dealt with*. The spectrum of positions is quite broad. Some argue that we should accelerate technological development, while others believe we need to "get rid" of it, or at least slow it down. Fixing the misuses of technology through more technical control is also a popular option. Some believe in the power of legislation procedures, advocating for effective regulations across nations' state structures. Others argue that a global open market economy would be a less harmful way of addressing technology's negative impacts, whether through innovation policies or economic self-regulation mechanisms. Educational policies also play a significant role in this debate, particularly regarding how we should engage younger generations in discussions about technology. On this issue, some advocate for preparing the youth for the significant changes that technology is bringing to society, while others believe we should encourage a more critical and reflexive attitude toward the current state of affairs.

But why do we emphasize technology from a philosophical standpoint? In an era with so many pressing challenges and problems to be tackled, what do we intend if we take it as a question that urges to be "thought" once again? If we seek to listen to what technology still has to tell us, we might arrive at the following direction Technology is related to *the conditions of possibility that allow our world to reveal itself as such.* Technology is not just a backdrop but a crucial element that shapes our possibilities of perception and action in the world. We want to emphasize that it is impossible, in contemporary society, to understand the meaning of the word

[2] Sloterdijk, P. *What happened in the 20th century?*, p. 20.

"world" without acknowledging technology. As a world-disclosing force—especially in our modern age—it is undeniably challenging to think about *what our world would be* without taking technology into account.

This connection between the world and technology is not only vital for our present but also for understanding our past and imagining our future. On the one hand, *can we envision a future devoid of technology*? Considering the vast array of challenges we face—economic disparities, racism, sexism, environmental crises, and threats to our political possibilities of (co)existence—technology will undoubtedly continue to mediate our interactions with the world. On the other hand, *can we fully comprehend our past without acknowledging how technology has shaped it*? As we will discuss, not only our biological condition but also the very ability to explore our history are deeply intertwined with technology. We can only connect with our past through technological devices (e.g., books, buildings, and all kinds of artifacts), and scientific procedures, both of which are heavily reliant on technology.

These reflections lead to a decisive diagnosis that will guide this work. *We understand technology as a planetary-scale phenomenon, highly paradoxical and complex*. We start by acknowledging that it shapes our world profoundly, not only by creating a global network involving the flow of goods, bacteria, information, energy, and people but also by influencing the very mode of existence that enables such a network. *How has technology allowed us to colonize the planet? Will it enable us to continue dwelling in a world worth living?* Next, we observe the paradoxical nature of technology, as it is both the closest and the most distant from us[3]. On the one hand, it is closest because it is omnipresent in our lives to the point of becoming nearly invisible. On the other hand, it remains distant because we still lack understanding of its immense potential to condition our existence.

To address this paradoxical and planetary phenomenon, we will *adopt the theoretical perspective of Peter Sloterdijk*, a German philosopher widely regarded as one of the most original and provocative thinkers of our time. By introducing Sloterdijk's concepts, we will place technology as *the* core of our analysis, ensuring that our work remains fully interconnected. We do not approach technology in a loose, unstructured way, nor will we navigate Sloterdijk's texts with the intent of presenting a *potpourri* of themes and definitions. This perspective leads us to define

[3] Heidegger, M. *Bremen and Freiburg Lectures*, p. 3-4, 42-43.

two central questions of the thesis: 1) *How can we interpret the concept of technology in Sloterdijk's thought, given the breadth of his works and philosophical influences?* 2) *How can we place the question of technology in our planetary age and analyze it through Sloterdijk's philosophy?* More importantly, what structure will allow us to address these intertwined research objectives? We will first engage with the question of technology in our contemporary world to examine its boundaries. Sloterdijk's philosophy will then be thoroughly explored, with the concept of technology serving as our guiding axis. This approach will allow us to revisit the question of technology in our age with a fresh perspective, offering insightful interpretations of critical contemporary phenomena. Since questioning technology in our planetary age forms both the starting point *and* the conclusion of our investigation, this "symbiotic" structure clearly emphasizes one of the key objectives[4] of this work. Nevertheless, we also aim to provide a novel interpretation of Sloterdijk's philosophy and contribute to the more specific academic discussion around his work *per se*.

To achieve these symbiotic objectives, we must first clarify the structure of our investigation. Chapter 2 begins with the concept of technology itself. Here, we will examine how human existence is inseparable from technology, demonstrating that our *human condition is inherently a technological one.* These insights will allow us to more substantively frame technology as a philosophical question, taking into account the current *status quo* of the field known as the philosophy of technology - specifically, what has been termed the "*empirical turn*." The exploration of technology in Chapter 2 will then guide our analysis of Sloterdijk's work in the subsequent chapters, providing a focused lens through which to examine the tensions and challenges in the contemporary academic debate regarding the philosophy of technology. Our expectation is that Sloterdijk's concept of technology, as analyzed in Chapters 3, 4, and 5, can be fruitfully applied to key contemporary debates, including anthropogenesis (explored in Chapter 4), artificial intelligence, our global coexistence, and the Anthropocene (addressed in Chapter 6).

In Chapter 3, we start to delve into Sloterdijk's philosophy to understand his concept of technology. We briefly introduce Sloterdijk's early thinking through works such as *Critique of Cynical Reason*, *Infinite Mobilization*, *Weltfremdtheit*,

[4] I.e., questioning technology in our planetary age.

and *Im Selben Boot*, focusing on how technology is understood in these texts. It will become evident how his early phase, highly influenced by the first generation of Critical Theory, changes into conceptual dialogues about the limits of what it means to "coming-into-the-world". As Sloterdijk progressively engages more with Heidegger's philosophy, he moves away from Critical Theory. This research examines the shift in Sloterdijk's early work concerning technology. His understanding of technology transitions from a cultural critique—where political and libidinal conditions are decisive—to a fully developed onto-anthropological approach, where technology is seen as a driving force shaping and determining our planetary mode of existence. By the end of Chapter 3, Sloterdijk's later developments on issues such as life, ontology, immunology, and space will also become clearer, as we offer a contextual reading of concepts that were embryonic developed in his early works.

Chapter 4 will build on this, focusing on technology from an onto-anthropological approach, as we deeply explore the concept of anthropotechnics. By interpreting the philosophical *aporias* present in the phenomenon of human evolution, we understand it ontologically through the lens of "coming-into-the-world". Starting from the debate on the limits of humanism in a technological age, we encounter the "Sloterdijk affair" triggered by his essay *Rules for the Human Park*. To explore Sloterdijk's ideas beyond the "media scandal", we engage with Heidegger's ontology of life, specifically his seminal work from 1929/1930 - *The Fundamental Concepts of Metaphysics: World, Finitude Solitude*. The controversial concept of the ontological abyss between humans and animals helps provide a firmer understanding of Sloterdijk's critique of Heidegger. The concept of anthropotechnics can then be seen as an *ontological traversing from an environment to a world through technology*. This development serves the primary objective of this work for two reasons. First, we offer a solid, contextual reading of the essay *The Domestication of Being*, showing how the concept of anthropotechnics is deeply rooted in Heidegger's ontology of life, and addressing some perspectives Heidegger himself acknowledged as underdeveloped in his 1929/1930 seminar. Second, we highlight some unexplored connections between Heidegger's characterizations of tools in fundamental ontology with Sloterdijk's onto-anthropology.

Consequently, in Chapter 5, we will examine how anthropotechnics demands a thorough investigation of humans as *technological producers of spaces through immunizing interiors*, as explored in the trilogy *Spheres*. We begin this chapter by

mapping Sloterdijk's main philosophical influences in the trilogy, alongside a brief history of the concept of space in philosophy, with particular attention to Heidegger's interpretation of space in *Being and Time*. These analyses will lay the foundation for a reading of Sloterdijk's concept of *space* and how this framework is essential to understanding the concept of technology in *Spheres*. Since *immunology* is also essential to grasp the meaning of technology in *Spheres*, we will move to this concept next. Prominent contemporary authors who discuss the role of immunology in modern philosophy, such as Donna Haraway, Jaques Derrida, Roberto Esposito, and Byung Chul-Han, are briefly highlighted to enable a comparative understanding of Sloterdijk's concept of immunology. Finally, we will discuss the presence of technology in *Spheres,* focusing primarily on how the "coming-into-the-world" is a task of constantly localizing and immunizing oneself through technology.

After addressing Sloterdijk's concept of technology in chapters 3, 4, and 5, we will return to the discussion in Chapter 2 regarding *technology as our contemporary question*. As we have seen, some contemporary phenomena challenge the limits of philosophy of technology in our era, particularly in that technology, as a planetary-scale phenomenon, can be considered beyond strict empirical characterization. Sloterdijk's perspective on technology allows us to imagine possible *re-orientations* for the future, addressing critical themes such as the Anthropocene, Artificial Intelligence, and our planetary political horizon. We begin by diagnosing the Anthropocene from a technological perspective using Sloterdijk's framework, and then reinterpreting his concept of *homeotechnology*. We specifically focucs on Sloterdijk's underdeveloped notion of homeotechnology as biomimetics. Addressing more directly the necessity of building global coexistence in a technological age, we proceed to a possible interpretation of Sloterdijk's views on democracy and globalization, drawing on a dialogue with authors such as Hannah Arendt and Bruno Latour. Finally, we offer a provocative reading of recent developments in AI through the concept of narcissistic wound, primarily based on Sloterdijk's essay *Wounded by Machines.*

After outlining the structure of the present work, it is also necessary to briefly highlight its methodological approach. We proceed in a historical-philosophical manner, acknowledging the insertion and conceptual construction of Sloterdijk's thought as built from a delimited intellectual heritage when we analyze a very

particular phenomenon, i.e., the question concerning technology in our planetary age. This tradition of thinkers who critically influence him defines the boundaries of his philosophical horizon, with a focus on those who most effectively expose his concept of technology. Thus, constant dialogues are made to explicitly present Sloterdijk's philosophy, primarily, though not exclusively, through Heidegger.[5] However, we will not limit ourselves to Sloterdijk's reception of the philosophical tradition. The confrontation of his work with what is known today as *the empirical turn* in the philosophy of technology is inevitable, but this is not a "direct confrontation". We are not preoccupied with constantly emphasizing the differences and similarities between Sloterdijk and the empirical turn, as if we could ultimately claim that Sloterdijk's perspective is a "better option" or "a new turn" in the debate. We believe that simply unfolding Sloterdijk's perspective on technology will suffice to show how *other philosophical possibilities* can arise outside the academic *status quo*. If technology is the unthought, as Bernard Stiegler has aptly stated,[6] *why should we restrict ourselves from conceptualizing "thinking" as an attitude of "overcoming" the philosophers who came before us?*

[5] As we will see, Sloterdijk is an author who opens many other dialogue possibilities, such as with Deleuze, Foucault, Nietzsche, Adorno or Bachelard. Nevertheless, the reader will notice that Heidegger is a constant point of departure. The reason is that the author of the present work has his current philosophical (im)possibilities totally intertwined with Heidegger's philosophy.
[6] Stiegler, B. *La technique et le temps*, p.17.

2
Technology as our contemporary question

As already discussed, one fundamental point of the present work is questioning the world we inhabit if we give technology a central role in its configuration. Before engaging in such questioning through Sloterdijk's lens, we need to understand in what sense we can claim that *our human condition is a technological condition*[7]. This claim means that our mode of existence is totally intertwined with what we call technology, consequently implying that the latter is related to the way reality as such appears to us. To move towards these issues, the relationship between two concepts is at stake: *philosophy and technology*.

The importance of these concepts in the present context needs further delimitation. One of our initial hypotheses is that technology shows itself today as a highly ambiguous phenomenon on a planetary scale, and questioning it is a crucial task. Consequently, we need both to expose its contradictions and ambivalences soberly and to reinforce the thesis that *technology, philosophically speaking, is a phenomenon worthy of attention*. Trying to understand contemporary societies without observing them as shaped by technological development seems, at the very least, *naïve*. Although the previous statement does not necessarily imply a thematic primacy—where every attempt at critical and reflective analysis of our time must place technology in the foreground—ignoring it without the slightest awareness of such an attitude seems equally imprudent.

In the present work, philosophy is the chosen and enabling discipline for a radically critical and reflective attitude toward the very concept of technology. Other perspectives could have been selected and are equally relevant—such as sociology, anthropology, psychology, and cultural studies—but the analysis of fundamental concepts and the elaboration of questions kept open in their radical *openness* and *problematicity* justify the choice in the present work. Now, we must outline the

[7] We borrow this term from Arendt. It is interesting to recognize that, somehow, the undeniable character of technology to human existence was loud and clear in Arendt's perspective. "The decisive difference between tools and machines is perhaps best illustrated by the apparently endless discussion of whether man should be "adjusted" to the machine or the machines should be adjusted to the "nature" of man. We mentioned in the first chapter the chief reason why such a discussion must be sterile: if the human condition consists in man's being a conditioned being for whom everything, given or man-made, immediately becomes a condition of his further existence, then man "adjusted" himself to an environment of machines the moment he designed them. They certainly have become as inalienable a condition of our existence as tools and implements were in all previous ages." Arend, H. *The Human Condition*, p. 147.

relationship between these two poles—philosophy and technology—by unfolding such relationships and subsequently pointing out their contributions to the present work.

Firstly, we will take the direction *from technology to philosophy*, analyzing how technology, endowed with its dynamics and structure, affects philosophy as a practice. Such an approach inevitably implies problematizing technology as a gravitational field that conditions philosophical questioning in our age. How is our existence—and consequently our thinking—always influenced by technology? This question may lead us to a kind of *technological materialism,* if we start from the assumption that material conditions directly (but not exclusively) affect different spheres of "contemplative" and "active" life. However, we do not claim to take a strictly deterministic position regarding this influence. If we claim that technology conditions us, it does not only mean that *technology is a powerful force influencing how the world operates*, but also that *technology renders possible and sets the limitations of how we can understand the world as such*.

In the second phase, we move in the opposite direction: *from philosophy to technology*. How does this critical and reflective attitude enable us to understand technology? In what ways can this reading be conducted nowadays, especially considering the problematization of philosophy itself as a discipline, with its historical development sometimes pointing to its (im)possibilities of existence in a technological world? What kind of thinking is required of us in an era where technology inevitably and increasingly has planetary contours, considering its scale and pervasiveness?

2.1
Technological entanglement

Moving on to the first movement signaled, starting from the assumption that something like philosophy is possible in our technological age, how does the latter exert itself on the former? Such a question is essential since, as can be highlighted, philosophical questioning (as well as any other theoretical activity) in our age is already fully interpellated by technology. There is no possibility of escaping to another world or reality from which we could resort to a position of neutrality, behaving as external observers. On the other hand, living *as* existing (and not simply

subsisting) and thinking are always (and only) possible *through technology*[8]. Starting from this point, our task can be delimited to explaining how we are always already conditioned according to various possible perspectives, since we are not left with some Archimedean point, to use the term once employed by Hannah Arendt[9]. For such an explanation, we will use a provisional definition of technology that is as broad as possible, with the purpose of helping us make the entanglement in which we are involved more nuanced and complex.

Mitcham[10] has proposed a taxonomy through which we can understand the concept of technology in four different ways. As we will notice, these definitions are complementary to each other and are initially used here interchangeably, depending on the context in which we find ourselves. The first way is to define technology as the set of artificial objects surrounding us, or, in Mitcham's words, "all humanly fabricated material artifacts whose function depends on materiality as such"[11]. This category would include clothes, utensils, structures, apparatus, utilities, tools, and machines.

Moving to the second way of understanding technology[12], we could define it as a specific type of knowledge[13]. This definition would include intuitive sensory-motor skills (the so-called know-how), technical maxims, which are empirical laws or attempts to describe reality in a structured and verifiable but non-scientific way, such as the rules for dimensioning production lines developed by Frederick Taylor, or technological theories, which are scientific theories applied to the solution of engineering problems, such as operations research. Thirdly[14], we can understand technology in a processual way, insofar as the transformations operated in the natural world by the so-called technical systems perform vital functions in Western

[8] The attempt to understand the current human condition as being enabled by a process of technological bifurcation, i.e., problematizing the role of technology in human evolution from a philosophical perspective, is not an exclusivity of Sloterdijk. As we will mention in chapters 4 and 5, there is a whole tradition in German philosophical anthropology that developed theories about it. More contemporary, Bernard Stiegler has dealt with it in *La technique et le temps,* and also Véronique Havelange, Charles Lenay, and John Stewart in "Les représentations: Mémoire externe et objets techniques", *Intellectica* 35, no. 2 (2002): 115–129.

[9] Arendt, H. *The Human Condition*, p. 262. As Arendt points out, modern thinking "found a way to act on the earth and within terrestrial nature as though we dispose it from outside, from the Archimedean point." As we will argue in this chapter, inquiring about technology from a philosophical perspective implies assuming that we are deeply *entangled* with it.

[10] Mitcham, C. *Thinking through Technology*, p. 161-266.

[11] Ibid., p. 161.

[12] Ibid., p. 192-208.

[13] Of course, this definition is related to a broad literature (that we will not delve into) that discusses the concept of *techné* in Classical Greek thinking, which can be found in Mitcham, C. *Thinking through Technology*, p. 114-136.

[14] Ibid., p. 209-246.

societies, especially after the Industrial Revolution. The processes highlighted by Mitcham are diverse, for example, working, designing, and maintaining.

Fourthly[15], we can think of technology as volition or the pursuit of (or will towards) efficiency. In this definition, what is at stake is the rationality imposed by a civilizational movement of progress and dominance with a clear teleological aspect, in which individuals experience a way of dealing with the world placed by a social dynamic already set in motion before their particular choices and preferences.[16]

Now, we have gathered four possible meanings of the concept of technology. We can consequently notice how broad this spectrum of meanings is, leading us to reinforce our initial hypothesis that technology is a phenomenon worthy of attention, philosophically speaking. Nevertheless, we still need to address more clearly how technology conditions us. In order to approach this question, we will inquire into *how we are ontically[17], epistemologically, ethically, and politically entangled with technology*[18].

Firstly, we can question the ontic domain and highlight how technical objects are everywhere and surround our lives. From smartphones and computers that structure our communication today to our houses and workplaces, we are constantly dealing with technology. We cannot imagine our everyday lives without those objects. Being so omnipresent, these artifacts become practically invisible to us since, most of the time, we tend to naturally "neutralize" them and consequently do not notice how our modes of relation to such objects delimit our possibilities of *being-in-the-world*.

To clarify such relations, postphenomenology has developed a theoretical approach to describe our interaction with the world, taking technical objects as a starting point. According to this theoretical perspective, which is highly influenced by

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[15] Ibid., p. 247-266.

[16] As we will see later, these different possibilities of defining technology are deeply related to recent debates held on the philosophy of technology itself.

[17] Here it is important to stress the difference between what we regard as *ontical* and *ontological* domains. In our context, the former is deeply attached to the analysis of technical objects *per se*, in their physical composition, daily use, and material influence on other beings. The latter is related to the conditions of possibility that allow beings (e.g., technical objects) to appear and be understood *as such*. As we will see in this chapter, the own history of the philosophy of technology oscillates between approaches that tend to highlight more the ontical (e.g., the empirical turn) or the ontological domain (e.g., the Heideggerian notion of *enframing*). Later in this work, it will become more clear how Sloterdijk's concepts allow offering an interesting new reading of this apparently sharp division.

[18] The reader can wonder why there is no mention here to our ontological entanglement with technology. In section 2.3 we do that by taking Heidegger's notion of *enframing* as a point of departure, and we also do that in chapters 3, 4 and 5 taking Sloterdijk's conceptual framework.

phenomenology, our *intentionality* can be understood as having technical objects as constant and primal mediators[19]. It is then the task of postphenomenology to describe how technological artifacts always already mediate our relations with the world, both in the way we interpret it (hermeneutically speaking)[20] and how we act upon it (existentially speaking)[21]. What is at stake, then, is a non-foundationalist theoretical framework[22] concerned with the description of the human lifeworld, taking into account the central role technology has in it. This is done by describing the possible human-technology relations developed by Don Ihde[23] and expanded by Peter-Paul Verbeek[24], referred to by the latter as (*technological*) *mediation theory*. Also central to postphenomenology is the discussion about *multistability*—or how the functions and uses of technical artifacts are always dependent upon their use—contexts[25]. The ethical framework developed on the basis of this postphenomenological conceptualization of technology is typically characterized by confidence in our ability to anticipate the effects induced by technology on our world and then build new forms of human-technology interaction through *design*[26]. Even without detailing here *how* postphenomenological analyses are carried out—since this is beyond our scope—it is easy to notice the wide range of applications and aspects approached. Modern technologies such as smartphones, augmented reality, self-tracking devices, and facial recognition technologies are investigated in terms of how they establish technological mediations[27].

Secondly, it is also worth stressing how, on an epistemic level, we are already always conditioned by technology. To develop such an argument, the highly famous

[19] Verbeek, P. *What things do*, p. 113-116.
[20] Ibid, p. 121-146.
[21] Ibid, p. 147-172.
[22] Postphenomenology is understood as a non-foundationalist theory since its concept of truth is heavily influenced by the pragmatism of Richard Rorty, as Ihde frequently claims. An excerpt that explains in a more detailed way the influence of pragmatism in postphenomenology is: Ihde, D. *Postphenomenology and Technoscience*, p. 9-19. Also, as Rosemberger explains, "Postphenomenology is at once deeply and expansively indebted to the work of Martin Heidegger, and at the same time an attempt to move beyond what is sometimes considered the foundation-seeking nature of his work in its attempt to categorize the modes of being. In particular, Ihde's notions of "embodiment relations" and "transparency" straightforwardly borrow from Heidegger's account of tool use (to which the hammer is a reference), and also the work of Merleau-Ponty which resituates these ideas within an account of the body". Aagard, J, *et al*. (Ed.) *Postphenomenological methodologies*, p.195, n.1.
[23] Here we refer to the widely known four modes of human-technology relations used by postphenomenologists proposed in: Ihde, D. *Technology and lifeworld*, p. 72 - 112.
[24] An example of expansion of Ihde's four modes of human-technology relations can be found at: Verbeek, P.P., Cyborg intentionality: Rethinking the phenomenology of human–technology relations. *Phenom Cogn Sci* **7**, 387–395 (2008).
[25] Verbeek, P. *What things do*, p. 117-118.
[26] Cf. Verbeek, P. *Moralizing technology*.
[27] Cf. Hongladarom, S. 'Machine hermeneutics, postphenomenology, and facial recognition technology'. *AI & Society*, p. 1-8, 2020.

excerpt in which Heidegger states that modern technology would be 'younger' than modern science from a historical point of view but 'older' from an ontological (or rather onto-historical) point of view seems valid[28]. This claim would imply that the Industrial Revolution was not made possible by the scientific advances of the 17th century, as the standard reading of the history of science claims. Instead, modern science would have already developed in a technological mode of unveiling the real—since technology, precisely here, is not only understood ontically but ontologically[29]. Heidegger's thesis is interesting because, by identifying the intertwinement between the development of technology and the history of metaphysics, it is possible to explore the scientific knowledge of modernity as the epistemic response to a historical call for domination and availability of the real. The various scientific practices will always be technological because they aim for the *explicitness of reality* as something measurable, consequently unfolding science as a quantitative prediction producer. These features of science would already be present implicitly in its methods and strategies of legitimation as a discourse that tells the truth about reality. As Nietzsche and Heidegger pointed out[30], the victory of science in the modern era can be understood as the victory of its method.

Additionally, it is well-known how the development of any science today depends on technical objects, something Don Ihde has insightfully pointed out and explored as *instrumental realism*[31]. From theoretical physics to sociology, there is no possibility nowadays that any robust scientific program could be structured without the help of tools such as measuring instruments, big data, and the Internet[32]. We could also mention, in recent history, the proliferation of research laboratories linked to and fostered by private companies, with explicit purposes of technological application and generation of intellectual property. Given this scenario of circularity and blurring boundaries between science and technology—as science aims at technological development and technology drives and limits scientific discoveries—

[28] Heidegger, M. *The Question Concerning Technology and Other Essays*, p. 21-22.
[29] Heidegger's conceptualization on technology will be clearer delimited later in this chapter.
[30] Heidegger, M. *The Provenance of Art and the Destination of Thought*, p. 122.
[31] Ihde, D. *Postphenomenology and Technoscience*, p. 60.
[32] Somehow, this is the same argument that is developed in Arendt, H. *The Human Condition*, p. 294-295.

many theorists refer to what we know today as the *technosciences*[33], aiming precisely to highlight this interrelationship.

Despite the various debates in academia about its *modus operandi*, there is arguably also the presence of a technical will to efficiency in the organization of the scientific community itself and its production of knowledge. The massive presence of productivity indexes of students and staff, university and research institute rankings, journal and paper impact factors, and all the following standards for selecting and managing personnel are some mechanisms that follow technological rationality[34]. We can also point out practices such as systematic review techniques, bibliometrics, and meta-analysis. The modes of validation of scientific results and state-of-the-art mapping are framed in very well-structured technical procedures, delimiting what can (and consequently what cannot) be considered "high-impact science." Regarding the latter, the scientific community's choice of research topics and issues is often geared toward opportunities for more funding and visibility, previously organized by companies and governmental entities driven by the maximization of their efficiency indicators.[35]

Thirdly, it is easy to notice our entanglement with technology if we take ethics as an aspect of our analysis. The first and most evident point is the emergence of new ethical questions from technological development itself. Nuclear power, genetic engineering, and artificial intelligence are just some recent examples of how technologies have posed a new set of ethical questions through their mere possibility of use, given the consequences they could unleash in a globalized and interconnected world. Debates of this type arise because technological development expands and drastically modifies our capacity for agency, challenging us to establish theoretical frameworks with normative pretensions that consider the technological dimension of human activities. On this aspect, it is worth highlighting the pioneering work of the philosopher Hans Jonas, who, as early as the 1970s, argued for a civilizational ethics that would need to think radically not only about the

[33] Although Ihde develops the notion of *technoscience* from a postphenomenological perspective in the *Postphenomenology and Technoscience*, there are other authors who develop the notion of technoscience such as Rosa, *Tecnociências e Humanidades. Novos paradigmas, velhas questões,* vol. 1; and Zwart, H. *Continental philosophy of technoscience*.

[34] An exploration of the relation between Heidegger's diagnosis of enframing and its relation with Education can be found in: Thomson, I. D. *Heidegger on Ontotheology*, p. 147-155

[35] A text that develops in more detail some issues about the relation between the process of choosing research topics is Elliott, K. C. *A tapestry of values: An introduction to values in science*, p. 19-40.

maintenance of the present but also of the future, regarding the global existential risks present in new technological developments[36].

Considering the contemporary context of algorithms colonizing the world, the progressive automation of decisions is a clear example of how contemporary ethical questions are intertwined with technology—from courts implementing AI systems to how we choose the next movie to watch.[37] What is at stake is not only the decisions automated by algorithms but also our inability to decide which decision-making processes will be "automated" or not. While such decisions and *meta-decisions* are becoming more diffuse and opaque, their ethical consequences are increasingly visible, as the delegation of choices can, for instance, present new challenges in discussing who is responsible for an unpredictable outcome. Whether in the financial markets of Shanghai or the soybean plantations in the Brazilian Midwest, the automation of decisions multiplies with great ease, given the increases in efficiency and predictability of the outcomes, along with the consequent financial and managerial benefits for their endorsers.

Another broadly discussed[38] ethical problem posed by technology is what we can call *the problem of many hands* (and also *many things*)[39]. Due to the large and networked production chain of services and goods, several individuals design and manufacture technological artifacts in entirely different contexts from their use. As a result, it becomes reasonably difficult to identify and attribute moral responsibility for each of those involved when an ethical issue arises. In more concise terms, "A problem of many hands occurs if there is a gap in a responsibility distribution in a collective setting that is morally problematic.*"*[40] A well-known illustration of such an issue is the autonomous car problem[41]. When something goes out of control, and someone is the victim of an accident caused by a system embedded with artificial intelligence, who should hold the responsibility? The company that produces the

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[36] This framework is mainly developed in Jonas, H. *The Imperative of Responsibility: In Search of an Ethics for the Technological Age*.

[37] A comprehensive exploration between what is known today as "datafication" and the recent changes in contemporary capitalism can be found at: Sadowski, J. (2019). When data is capital: Datafication, accumulation, and extraction. *Big Data & Society*, *6*(1).

[38]For instance, van de Poel makes a more general description of the problem of many hands and claims an important distinction between a backward-looking and a forward-looking sense of responsibility in this case. van de Poel, I., Nihlén Fahlquist, J., Doorn, N. *et al.* The Problem of Many Hands: Climate Change as an Example. *Sci Eng Ethics* 18, 49–67 (2012).

[39] Coeckelbergh, M. *AI Ethics,* p. 113.

[40] van den Poel, I. *The Problem of Many Hands: Climate Change as an Example*, p. 63.

[41] An example of how Mark Coeckelbergh explores the complex issue of moral responsibility in self-driving cars is: Coeckelbergh, M. 'Responsibility and the Moral Phenomenology of Using Self-Driving Cars', *Applied Artificial Intelligence*, (2016), 30:8, 748-757,

cars? The programmer? The hardware supplier? To what extent can the moral agent be identified in such cases? What are the practical consequences for the individuals affected by this complexity?

Still, in the spectrum of AI ethics[42], another critical issue is the capacity of consciousness of the agents regarding their actions, which directly puts into question the explainability of the functioning of technologies by their users and creators[43]. With the progressive complexification of technical objects at a causal level (the refinement of the internal mechanisms that allow a specific action to be performed), it becomes more complex for users, or even developers, to explain precisely *how* a given mechanism operates.[44] When such a situation scales and is involved in important decisions, it becomes challenging to attribute moral responsibility to individuals, precisely because they cannot be fully conscious of inexplicable actions. An example of this problem is the use of neural network algorithms in artificial intelligence applications, as programmers sometimes cannot justify the algorithm's outputs based on the phenomenon analyzed by the network. As a result, a whole area in computing science has recently emerged to formulate methods and techniques capable of circumventing this problem, creating sophisticated AI algorithms to make the later cited neural networks explainable[45]. Not so surprisingly, this kind of situation was already noticed by Hannah Arendt when she questioned the increasing distance between our worldly comprehension ability and the language used by the natural sciences, which shows us that the technological roots of our ethical problems can be more profound than we initially imagine.

Fourthly, on the technological aspect of politics, it is evident how the negotiation of shared spaces is increasingly affected by the presence of technical objects. It is possible to highlight the impact suffered by the profusion of technological innovations on power relations, as the latter are continually shaped by the horizons

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[42] Although this problem is very clear if we analyze the AI ethics literature, it can also be addressed more broadly to several fields.

[43] Coeckelbergh, M. *AI Ethics*, p.116-123.

[44] This is related to Stiegler's notion of (total) proletarianization, which is both a technological and a politico-economic issue, since it involves the destruction of knowledge in society (both at the individual and collective level) due to its short-circuiting by technical systems, e.g., algorithms and automated systems. A text that offers a more concise view of the term proletarianization in Stiegler's work can be found in Stiegler, B. *Automatic Society* vol. 1, p. 160-164.; Stiegler, B. *Nanjing lectures*, p. 9-19.

[45] The term XAI (explainable artificial intelligence) is a trending topic nowadays, heavily triggered by the rise of deep neural networks, with several methods and promises. A paper that offers a review of this topic is Samek, W., Montavon, G., Lapuschkin, S. Anders C. J. and Müller, K.-R. "Explaining Deep Neural Networks and Beyond: A Review of Methods and Applications," in *Proceedings of the IEEE*, vol. 109, no. 3, pp. 247-278,

opened up by the former. The previous claim can be exemplified in contemporary societies if we analyze, for instance, the diagnosis developed by Byung Chul-Han[46]. In it, the history of technology plays a key role if we want to understand the transition from a disciplinary society (as theorized by Foucault[47]) and a control society (as theorized by Deleuze[48]) to a society of performance, as made possible by new informational and computational technological developments. As Han argues[49], there is a paradigm shift of individuals once produced by highly hierarchical institutional structures such as schools and prisons, where biopolitical dispositifs operated in a centralized mode, to a regime of subjectivity production based on self-imposed goals and digital media self-exposure. This change does not seem feasible without artifacts such as GPS, social media platforms, and artificial intelligence algorithms that allow uninterrupted monitoring and visibility. This argument leads us to the insight (already explored by STS scholars such as Langdon Winner[50]) that there is a complex relationship between the power structures of our societies and the history of technology itself, in both directions of implication—technological artifacts that enable new power relations and power relations that drive and organize technological development in specific directions.

If we take the argument developed earlier about the problem of the explainability of technology and its consequent ethical dilemmas, it is possible to observe how it also has profound political implications. The problems of a black-box society arise precisely when large-scale decisions are made without knowledge about the decision-making processes due to an increasing opacity of the algorithms involved[51]. In addition to inhibiting the political participation of various social actors, such an increasing opacity can often hinder legal regulation and reinforce biases and discrimination. Another aspect of the black-box metaphor can be explored when addressing the lack of control over massive data collection from users by Big Tech companies and its possible commercialization, misuse, and vulnerability to invasion and data leaks. When inquired into on a large temporal and spatial scale, such problems lead contemporary authors to discuss about a significant change in

[46] Han, B-C. *Burnout society*.
[47] Foucault, M. *Discipline and Punish*.
[48] Postscript on the Societies of Control *in* Deleuze, G. *Desert islands and other texts*.
[49] Han, B-C. *Burnout society*.
[50] Winner, L. *Do artifacts have politics?*
[51] Pasquale, F. *The black box society*.

the current capitalist mode of production in its structure, resorting to concepts like surveillance capitalism[52].

Although many other aspects could have been explored, we can now have some understanding of *how we are interwoven with technology from ontic, epistemic, ethical, and political perspectives*, leading us to be minimally suspicious of any pretension about a "neutral" or "external" way of questioning it. Nevertheless, what is the importance of such an observation? How does it help us think about the technological world we inhabit?

Firstly, we can understand the panorama outlined in the light of Friedrich Holderlin's well-known verse from the poem "Patmos," frequently evoked by Heidegger - "But where danger is, grows the *saving power* also."[53] Although much could be said about the Heideggerian interpretation of the verse, we will only briefly highlight one aspect of it. Shifting the term "danger" to an onto-historical perspective taken by Heidegger, what is at stake is the progressive and eventual total standardization of the ways of understanding and unveiling reality since technology would possess an incremental[54] and self-reifying movement in its dynamics. However, in an era where we are increasingly summoned by technology and interwoven with it[55], this incisive appeal can provide the conditions to question it more robustly and originally. Faced with the danger, perhaps this situation gives us an opportunity to ask new questions and radically think about what our technological condition *really is*. As Heidegger writes: "The closer we come to the danger, the more brightly do the ways into the saving power begin to shine and the more questioning we become. For questioning is the piety of thought".[56]

Secondly, the narrative of technological interweaving moves us away from what we might characterize as *technophilia* or *technophobia*. Affirming or denying technology involves a very shallow conception, as characterized by several scholars of philosophy of technology, as a form of instrumentalism[57]. As we tried to highlight, our human condition, particularly in contemporary societies, is also

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[52] Zuboff, S. *Surveillance Capitalism*.
[53] Heidegger, M. *The question concerning technology and other essays*, p. 34.
[54] We can not only characterize this movement as incremental but also as self-reifying (in the sense that it transforms everything into objects) and also self occluding (as it is a process that increasingly challenges its clear understanding and exposure).
[55] As we will see, Sloterdijk's perspective on technology will complexify this argument, when we will onto-historically understand anthropogenesis *as* a technological process.
[56] Heidegger, M. *The question concerning technology and other essays*, p. 35.
[57] Feenberg, A. *Transforming technology*, p. 5-6.

technological, making it impossible to ignore our interweaving with it. The naive idea of an ultimate independence of humans from technology would lead us to immediately assert an autonomy beyond our reach, making us think as if we could simply deliberate on technological use as someone who drops a hammer or decides not to operate a specific mechanism. Even though it may seem unnecessary at first, stating this conclusion is essential because it moves us away from shallow discourses emptied of critical-reflexive capacities, which could steer public debates towards techno-fixes or romantic escapism. By refusing such positions and thinking more deeply about how our human condition is technological, we are provoked to consider *what kind of reflection* would properly place us in front of such a challenge, leading us to the next topic.

2.2
Philosophy of technology: A historical approach

Moving on to the second development announced at the beginning of this chapter, we now transition *from* philosophy *to* technology. How can we obtain a direction for philosophical inquiry that considers both the urgency of its necessity and the depth of its task? To do so, we first need to undertake a brief historical recovery on how philosophy has taken up technology *as a question*, which inevitably leads us to the discipline known today as the philosophy of technology[58]. Several approaches to the history of the philosophy of technology can be found[59], which consequently leads us to the question of how to build a minimum background on it. Here, we choose not to extensively discuss the history of the philosophy of technology but to briefly map its current debates, which were notably influenced by a movement known as the *empirical turn*. This choice will be important to the present work since it will allow us to define *in what terms we expect to take technology as*

[58] As we will see, what is known today as the philosophy of technology is not a monolithic structure, with a very heterogeneous understanding of what it means to question our technological world. Also importantly, there are some thinkers who offer significant contributions to a philosophical reflection on technology that have never labeled themselves as "philosophers of technology", e.g., Heidegger, Stiegler, Sloterdijk or Arendt.

[59] The main sources for offering our brief history of the philosophy of technology are: Cressman, D. *A Short History of the Philosophy of Technology* in Swierstra, T. et al. *The Technical Condition*, p. 43--74; Vallor, S. *Introducing the Philosophy of Technology* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology*, p. 1-16. For a broad recovery of classical excerpts about the question of technology present in the history of philosophy one can check: Scharff, R. C., Dusek, V. (ed.). *Philosophy of technology: The technological condition: An anthology*.

a philosophical question from the work of Peter Sloterdijk in chapters 3, 4, 5, and 6.

One could argue that the questioning of technology (*techné*) was already present in Ancient Greek thought, with great complexity and diversity of approaches, very different from the simple common-sense opposition between scientific knowledge (*episteme*) and technology, which often understands the latter as merely a practical application of the former[60]. However, the hierarchy between contemplative life and practical activities persisted throughout ancient, medieval, and early modern philosophy, as argued by Hannah Arendt[61]. Making (*poiesis*) has not occupied an important place in the history of philosophy, and technology has been subordinated to other perspectives, such as ethics and politics in Plato's philosophy[62]. This presupposition remained in the history of Western philosophy for a very long time, making it difficult for philosophers to consider technology a central topic in their systems of theoretical reflection. It seems plausible to state that we will not find *techné* as a crucial philosophical topic in Saint Augustine, Saint Thomas Aquinas, Descartes, Spinoza, Leibniz, Hume, Kant or Hegel[63]. For the emergence of a discipline such as the "philosophy of technology" to be possible, it would require the development of technology on a civilizational scale, in which our "fabricated second nature" became so visible and complex that the wondering (*thaumazein*) once defined by Aristotle as the beginning of philosophy could find its roots in our technological *milieu*.

Consequently, it is not surprising that it was during the Industrial Revolution that we saw the first use of the term "philosophy of technology" (*Philosophie der Technik*) , namely by Ernst Kapp in 1877[64], as well as the first investigation into

[60] For instance, we could highlight the differences between how Plato and Aristotle understood *techné* respectively.
[61] This argument is an interpretation of what is extensively developed in T*he Reversal within the Vita Activa and the Victory of Homo Faber* in Arendt, H. *The human condition*, p. 294-305.
[62] Arendt is an author who discusses more in-depth the relation between *vita activa* and *vita contemplativa* in ancient thinking. Reffering to Christianism, she affirms that "However, the enormous superiority of contemplation over activity of any kind, action not excluded, is not Christian in origin. We find it in Plato's political philosophy, where the whole Utopian reorganization of *polis* life is not only directed by the superior insight of the philosopher but has no aim other than to make possible the philosopher's way of life." Arendt, H. *The Human Condition*, p. 14.
[63] It is noticeable that Hegel's writings were already concomitant with determinant technological innovations of the Industrial Revolution such as the steam engine. Besides Hegel does not make technology a central question in his writings, the concept of work is present in the famous master-slave dialectic. One can find a brief recovery about how technology is present in Hegel's writings in: Bock, J. Technology, Freedom, and the Mechanization of Labor in the Philosophies of Hegel and Adorno. *Philos. Technol.* **34**, 1263–1285 (2021).
[64] *Grundlinien einer Philosophie der Technik*.

how machines relate to the way society is organized, distributes its wealth, and establishes power structures, as analyzed by Karl Marx in the late 19th century[65] . In an era influenced by the rapid intrusion of "machines" in the "lifeworld," the reactions appeared not only in philosophy but also in distinct fields such as politics and the arts. Two of the many possible examples in which we can respectively see this influence are Mary Shelley's *Frankenstein* and the Luddite movement, exemplifying how Romanticism and the question of technological development were deeply entangled and played a role in the 19th-century psycho-social background[66]. It is also worth pointing out that later, at the beginning of the 20th century, artistic *avant-gardes* such as Futurism were heavily influenced by the promises of emancipation and betterment of humankind by technology, which shows a different *pathos* towards technology but also reinforces the argument of the strong relationship between technological development and cultural manifestations throughout history[67].

The reflection on technology from a philosophical perspective would only become more intense precisely in a generation impacted by extreme experiences due to the dramatic events of the first half of the twentieth century, such as the Nazi concentration camps enabled by industrial processes of extermination, the atomic bombs on Hiroshima and Nagasaki, and all the new military technologies involved in the two great wars. Primarily influenced by those phenomena, authors such as Lewis Mumford (1895-1990), José Ortega y Gasset (1883-1955), Karl Jaspers (1883-1969), Jacques Ellul (1912-1994), and Martin Heidegger (1889-1976) produced essential texts for the reflection on technology in a more critical way. By inciting discussions that brought the questioning of Technology with a "capital T," as Don Ihde points out[68], the so-called classical authors of the philosophy of technology still foster many discussions and re-readings today, motivated both by critical objections and their inevitable presence and relevance in contemporary thought.

Symbolized by the establishment of the Society for Philosophy and Technology in 1976, the second half of the 20th century set the stage for a distinct movement from the previous one, in which philosophy of technology as an academic

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[65] A recovery of excerpts from Marx and Engels in which the question of technology is presented can be found at *Capitalism and the Modern Labor Process* in Scharff, R. C., Dusek, V. (ed.). *Philosophy of technology: The technological condition: An anthology*. p. 74 - 87.
[66] Vague, N. A. *The Entanglement of Technology and Art* in Swierstra, T. et al. *The Technical Condition*, p. 147--170;
[67] idem.
[68] Verbeek, P. *Don Ihde, The technological Lifeworld*. in Achterhuis, H. *American Philosophy of Technology*, p.120.

discipline was being consolidated, with the emergence of specific conferences and journals, in addition to national and international organizations dedicated to the theme. Such a movement allowed, besides greater systematization of the area, the possibility of reflection on the similarities among authors and consequent differences and divisions between several "schools of thought" that were being formed.

For illustrative purposes, we can mention the approaches oriented to engineering as opposed to the humanities, in which the main difference, according to Mitcham[69], resides in the treatment given to the questions: more operational and internal in the former and more critical and external in the latter. Other aspects can be noticed when we approach distinct formations within philosophy, such as the division between continental and analytic traditions, causing debates about the differences between a continental philosophy of technology and an analytical one[70]. We can also mention the relationship between geographical localities and their intellectual traditions, such as the search for a Latin American, French, or Spanish philosophy of technology[71], besides the incorporation and discussion of Eastern traditions in the philosophy of technology[72]. Another "taxonomy of the field" would be by common influences and research programs that treat technology from particular critical perspectives, such as postphenomenology, critical theory of technology, science and technology studies (STS), authors who emphasize philosophical anthropology[73], and reflections on technology with feminist and decolonial perspectives[74].

Faced with this plurality of visions and developments, we could ask whether we would need a technologically conditioned reason itself to question its limits before even investigating the world. Such a movement would be equivalent to asking if the philosophy of technology requires a critique of technological reason, using analogously the debate in which Kant was inserted when he investigated a critique

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[69] Mitcham, C. *Thinking through technology*, p. 62-65.
[70] Franssen, M. 'Philosophy of Technology and the Continental and Analytic Traditions', in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology*, p. 55 - 77.
[71] All those "national perspectives" are explored in a book series promoted by Springer which can be found at: https://www.springer.com/series/8657
[72] Wang, Q.. *Chinese Philosophy of Technology.*
[73] A brief introduction about all those perspectives (postphenomenology, critical theory of technology, STS and authors who emphasize philosophical anthropology) can be found at Lemmens, P, and Hui, Y. "Landscapes of technological thoughts: a dialogue between Pieter Lemmens and Yuk Hui." *Philosophy Today* 65.2 (2021): 375-389.
[74] Harding, S.. Postcolonial and feminist philosophies of science and technology: Convergences and dissonances. *Postcolonial Studies*, 2009, vol. 12, no 4, p. 401-421.

of reason's limits itself to deal with a "battlefield of these endless controversies" in modern metaphysics[75].

Without aiming at the ambitious task of a critique of technological reason, our path now is a brief description and problematization of some current debates in the philosophy of technology through the movement known as the *empirical turn*. But why precisely this? As stated by Verbeek[76], the empirical turn is a movement that occurred within the philosophy of technology in opposition to the so-called classical philosophers of technology, and it can be taken today as a highly influential theoretical background. This characterization is important because it is evident nowadays how much of what is labeled as "philosophy of technology" is influenced by the empirical turn regarding methodologies, intellectual production, and concepts[77].

Our next steps will be to quickly revisit the question of technology in Heidegger's work, since he is an author frequently addressed by theorists of the empirical turn as a clear example of what the "classic philosophy of technology" is. Next, we will reconstruct the basic concepts of the empirical turn and consider their objections towards Heidegger, to later highlight the recent debate about the limits of the empirical turn and possible frontiers in the philosophy of technology[78]. All this movement is necessary because, as stated in the introduction, reconstructing the whole concept of technology in the work of Sloterdijk seems useful, particularly regarding this debate about the conflict between, on the one hand, the characterization of technology as a transcendental phenomenon and its relationship with the concept of world (as done by Heidegger, for instance) and on the other hand, trying to give some centrality to the technical objects themselves and how they mediate our daily experience (as frequently addressed by the philosophers influenced by the empirical turn).

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[75] Such characterization is developed in the Preface of the First Edition of the *Critique of the Pure Reason*, Kant, I. *Critique of the Pure Reason*. Ed. and transl. by Paul Guyer and Allen W. Wood. Cambridge University Press, 1998, p, 99.

[76] Verbeek, P-P. *The Empirical Turn* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology*, p. 35 - 54.

[77] Brey, P. Philosophy of technology after the empirical turn. *Techné: Research in philosophy and technology*, 2010, vol. 14, no 1, p. 36-48.

[78] We understand that this debate is fostered by many discussions about the theme, such as the one presented by Lemmens (Lemmens, P. 'Thinking technology big again. Reconsidering the question of the transcendental and 'technology with a capital T In the light of the Anthropocene'. *Foundations of Science*, 2021, p. 1-17), with its respective comments and replies. Another text that discusses the limits of the empirical turn is: Bosschaert, M. T., Blok, V. The 'empirical' in the empirical turn: A critical analysis. *Foundations of Science*, 2023, vol. 28, no 2, p. 783-804..

2.3
Technology with “capital T”

Moving to the question of technology in Heidegger’s work, this topic is arguably one of the main discussions in the philosophy of technology, with wide-ranging consequences for contemporary thinking. To avoid getting lost in the labyrinth of Heideggerian philosophy, we will briefly delineate the central tenets of the conceptualization of technology in his work by addressing four points.

Firstly, what Heidegger initially offers in his famous discussion of technology[79] (*Technik*) could be called a “negative definition” as he tries to delimitate what he *will not* address as technology. Heidegger explicitly states that he does not deal with technology from an instrumental or anthropological point of view. The first perspective involves conceptualizing technology as a set of instruments, tools, or machines, or referring to the set of objects we think about when describing technologies in our daily activities, as a way of getting things done and solving problems. The second form of characterizing technology that Heidegger distances himself from is an anthropological view, which is defined as a human activity, among others. It is essential to highlight that these two previous modes of understanding technology are complementary to Heidegger. The problem with these definitions is not that they are incorrect. They *do* describe an adequate correspondence (*Übereinstimmung*)[80] between those concepts and our immediate reality. However, mere correctness (*Richtigkeit*) does not reveal something more profound and insightful about this planetary phenomenon that conditions our societies.

Secondly, what Heidegger searches for when he embarks on philosophically *questioning* technology is an understanding of its *essence*, or, phrased in another way, considering it *ontologically* as a phenomenon deeply intertwined with the history of Western metaphysics and, consequently, with our most profound

[79] This strategy is used, for example, in: Heidegger, M. *The question concerning technology and other essays*, p. 3-6.
[80] All the references to the original german terms were made consulting Warthal, M. *The Cambridge Heidegger Lexicon*, 2021.

possibilities of *making sense of our world as such*. It is also important to stress that the concept of *essence* for Heidegger[81] is not identified with its classical notions, such as an immaterial or ideal counterpart common to all technical objects (e.g., the platonic concept of idea - *eidos*) or a common property or substance that different kinds of technical tools would have (e.g., the Aristotelian notion of essence as *ousia*). Recurring to the etymology of the German language, Heidegger connects the idea of essence (*Wesen*) to a verb that could be translated as "to endure" (*währen*). Thus, questioning the essence of technology implies that Heidegger is searching for the mode in which technological development unfolds and makes possible a world for us in its temporal lasting. By questioning how the essence, or rather the 'essence-ing' (*Wesung*) of technology organizes and reveals beings, Heidegger searches for an onto-*logical* description of technology as truth (referring to *aletheia*, not to *orthotes*)[82], understood in the pre-classical Greek mode, as the unconcealment (*Unverborgenheit*) of beings. Technology, then, has a deep relation with comprehending the epochal moment we are immersed in, or the mode of understanding available to us regarding the history of Being (*Seingeschichte*). This mode is precisely the way in which the essence of technology as enframing (*Ge-stell*) turns all beings—including humans—into a standing reserve (*Bestand*), i.e., as mere parts of a stock to be used as resources[83]. This mode frames modern technology as a result of revealing reality in terms of a process of challenging (*herausfordern*) beings. Everything is seen as part of an infinite process of transformation, optimization, and control of a society in which the efficiency of this very process is a value in itself, indeed the highest value[84]. As stated by Heidegger, "Technology in its essence is something that man does not master by his own power."[85]. This development will

[81] Of course, due to the complexity of such a term inside Heidegger's work, we are attaining ourselves to the notion of *essence* which is discussed in *The Question Concerning Technology* present in *The Question Concerning Technology and Other Essays*, 1977.
[82] As is widely explored in *Plato's Doctrine of Truth* in Heidegger, M. *Pathmarks*, p. 155 - 182.
[83] The following excerpt is quite instructive about the "place" of humans in enframing. "The question remains in what way is the human already drawn into the essence of requisitioning. What (however) does this mean here: "the human"? "The human" exists nowhere. Assuming, though, that humans challenge forth the water power of the river for its pressure capacity and impose upon this to produce an electrical current, then humans are only capable of this insofar as they themselves are already ordered into this requisitioning. Humans, in their relation to what presences, are already challenged in advance, and therefore everywhere, and thus constantly, to represent what presences as something orderable for a requisitioning. Insofar as human representation has already posited what presences as something orderable in the calculation of a requisitioning, the human remains, according to his essence and whether knowingly or not, ordered into a requisitioning for the requisitioning of the orderable." Heidegger, M. *Bremen and Freiburg Lectures*, p. 29.
[84] Although as we may know, Hedegger does not mention the word "value" in his analysis, as it may lead to moral considerations rather than ontological ones.
[85] Sheehan, T. (ed.) *Only a God Can Save Us* in *Heidegger: The Man and the Thinker*, p. 45-67.

result in questioning the supposed modern freedom to deal with technology instrumentally as rational choice-making and free-determination towards technical objects and their possible (un)desirable outcomes[86].

Thirdly, as fully explored in the secondary literature,[87] Heidegger's position on the question of action regarding technology is highly paradoxical and circular. It is clear that Heidegger is trying to understand our world, in which technology plays a major role, but he also discusses concepts such as "freedom" and "danger," which inevitably triggers questions in his readers like: And now, what can we do about it? What path can we follow if technology is a power beyond our control? Should we abandon ourselves to nihilism since our destiny is not in our hands anymore?

This paradoxical situation that results from the concept of *enframing* can be summarized as: how can we control the effects of technology if our will to control everything is part of the problem? Heidegger's answer seems to be that what we can 'do' about it is to profoundly *think*[88] and open ourselves toward its *aletheic* essence(-ing) as it reigns over us, which might also open us to other forms of approaching reality beyond the eternal search for *technofixes*. In other words, having a free relationship with technology would not pass through the realm of action (in the sense of *agency*) but through opening ourselves to the essence of technology by radically putting it in question. Regarding this approach, Heidegger states that: "We shall be questioning concerning technology, and in so doing we should like to

[86] It is important to stress that, as we have already mentioned, Heidegger`s characterization of technology is highly influenced by the historical milieu of Europe's early 20th century. It could always be dangerous to determine the thought of a philosopher by its socio-historical context, but the other way around also does not seem wise (trying to completely ignore the relationship between thinking, world and *oeuvre*). For instance, as openly explored by the secondary literature about Heidegger's work, the contact with Ernst Jünger book *Der Arbeiter* was fundamental to the concept of enframing. About the relationship between Heidegger and Jünger one can consult Blok, V. *Ernst Jünger's Philosophy of Technology - Heidegger and the Poetics of the Anthropocene*, p. 53 - 108. Also, the first wide open effects of the incorporation of telecommunication technologies of his epoch in citizen's lives, such as the radio and television were always present in Heidegger's metaphors and examples, which does not imply that we cannot find new examples and metaphors in our age to inquire ourselves about his analysis. About this confrontation of Heidegger's formulations on contemporary phenomena, one can consult Lyra, E., *A atualidade da Gestell heideggeriana ou a alegoria do armazém* in *Heidegger: a questão da verdade do ser e sua incidência no conjunto do seu pensamento*.

[87] Dreyfus, H. *Heidegger on Gaining a Free Relation to Technology* in Dreyfus, H., Wrathall, M. *Heidegger reexamined*, p. 163-193.

[88] We will not delve into his discussion here; however, we can mention that Heidegger extensively questions a kind of thinking that is not oriented toward beings and actions but to being itself in its unfolding, something that cannot be mastered but incites a 'will to mastery' in the being of *Dasein*.

prepare a free relationship to it. The relationship will be free if it opens our human existence to the essence of technology".[89]

This path would lead us to (re)discover another kind of thinking, what he later calls meditative thinking (*be-sinnendes Denken*)[90], which does not engage us in the modern attempt to frame, exploit, and control reality. The way Heidegger addresses modern thinking is then central to the concept of enframing since he is dealing with an epochal shift that delimits our own possible horizon of concepts. Objectivity[91] and calculative thinking[92] are some terms employed in an attempt to interpret the progressive forgetting of Being that reaches a definitive phase in modernity, where beings are constantly revealed as measurable and manipulable entities. A kind of "response" to modern thinking and the will to control that are present in the essence of technology would be a possibility of letting things be, as he develops with the concept of releasement (*Gelassenheit*)[93].

Fourthly, we can address what we can call the *transcendentalist nature of Heidegger's thinking of technology*. This implies that technology *per se* is related to the way the totality of beings can appear to us as something intelligible, or how an epochal configuration makes sense for a collective, historically delimited. But what would be "behind" this totality of meaning? Heidegger's transcendentalist perspective is rooted in the presupposition that every ground of understanding—not only about the world but about ourselves—is guided by the *development of metaphysics*. The history of Western metaphysics not only reflects *how, in a certain epoch, Dasein can open itself to Being, but also how this interpretation of the conditions of the possibility of an epochal configuration is given from Being to Dasein*. Throughout this history, the essence of technology would be the current mode by

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[89] Heidegger, M. *The Question concerning Technology* in *The Question concerning Technology and Other Essays*, p. 3.
[90] As it is discussed in: Heidegger, M. *Memorial Address* in *Discourse on Thinking*, p. 45-58..
[91] As is discussed in Heidegger, M. *The Age of the World Picture* in *The Question Concerning Technology and Other Essays*, p. 115-154.
[92] As it is discussed in: *Memorial Address* in *Discourse on Thinking*, 1966, p. 45-58.
[93] We will not delve into the concept of releasement here, but one can find a rich debate about it in: Dreyfus, H. *Heidegger on Gaining a Free Relation to Technology* in Dreyfus, H., Wrathall, M. *Heidegger Reexamined*, p. 163-193. It is also important that *releasement* is deeply related to several issues that Heidegger will approach in his later thinking, or several attempts to keep thinking enframing by other perspectives, such as what it could really mean to think in our age (e.g., Heidegger, M. *What is Called Thinking*), the relation between language and Being (e.g., Heidegger, M. *Language* in *Poetry, Language, Thought*), art (Heidegger, M. *The Origin of the Work of Art* in *Poetry, Language, Thought*), dialogues with scientists who are worried about the problematic character of their own scientific practices (e.g., Heidegger, M. *Zollikon Seminars*), the future and present of philosophy in the age of technology (e.g., Heidegger, M. *The End of Philosophy and the Task of Thinking* in *On Time and Being*) and the question of dwelling (e.g., Heidegger, M. *Building, Dwelling, Thinking* in *Poetry, Language, Thought*).

which this relationship between *Dasein* and Being is rendered possible, and in this sense, Heidegger's characterization of technology can be considered transcendentalist.

However, it is important to stress that Heidegger frequently highlights that as long as the task of philosophy is necessarily to confront technology by radically thinking about it (and not demonizing it), the history of Western metaphysics, which starts with the poem of Parmenides and reaches the Nietzschean will to power (that finds in enframing a *retraction of Being*), is not simply a history of ontical or moral decadence. This interpretation seems important as it distances us from confusing a transcendentalist approach with a kind of romantic nostalgia for a world that has not yet been corrupted by technological development.[94]

With this brief characterization of technology in Heidegger's work, we can discuss the main tenets of the empirical turn and some of the objections made towards Heidegger (which are often regarded as valid for the entire set of classical philosophers of technology). [95] [96]

2.4
The empirical turn

[94] The following passage of an interview is very instructive regarding this point.
Wisser: Nietzsche a dit un jour que le philosophe était la mauvaise conscience de son temps. Peu importe ce que Nietzsche entendait par là. Mais si l'on considère votre tentative de voir l'histoire philosophique du passé comme une histoire de la déchéance à l'égard de l'Etre, et donc de la "détruire", plus d'un pourrait être tenté d'appeler Martin Heidegger la mauvaise conscience de la philosophie occidentale. En quoi consisté, à vos yeux, le signe le plus caractéristique, pour ne pas dire le monument le plus caractéristique, de ce que vous appelez "l'oubli de l'Être" et "l'abandon de l'Être" ? Heidegger: Tout d'abord je dois corriger un aspect de votre question, lorsque vous parlez de "l'histoire de la déchéance". Cette expression n'est pas employée dans un sens négatif. Je ne parle pas d'une histoire de la déchéance, mais seulement du destin (Geschick) de l'Être dans la mesure où il se retire de plus en plus par rapport à la manifesteté de l'Être chez les Grecs - jusqu'à ce que l'Être devienne une simple objectivité pour la science et aujourd'hui un simple fonds de réserve (Bestand) pour la domination technique du monde. Donc, nous nous trouvons non pas dans une histoire de la déchéance, mais dans un retrait de l'Être. Le signe le plus caractéristique de l'oubli de l'Être - et l'oubli doit toujours être pensé ici à partir du grec, de la lèthè, c'est-à-dire du fait que l'Être se dérobe, se soustrait - et bien, le signe le plus caractéristique du destin qui est le nôtre, est - pour autant que je puisse seulement l'apercevoir - le fait que la question de l'Être que je pose n'a pas encore été comprise. Wisser, R. *Entretien du Professeur Richard Wisser avec Martin Heidegger* in Haar, M. (ed.) *L'Herne - Martin Heidegger*, 1983, p. 94.

[95] This argument is, of course, a great simplification made by the representatives of the empirical turn. This is clear when Verbeek analyzes in a very similar way Heidegger and Jaspers in Verbeek, P-P. *What Things Do*, p. 15-95.

[96] The whole of the discussions and replies that could be given to the objections made against "Heidegger's philosophy of technology" and the other "classical" philosophers of technology is beyond the scope of the present text, but we can find in the following articles a response to a great range of issues: Thomson, I. *Heidegger on Ontotheology: Technology and the Politics of Education*, p. 44-77; Mitcham, C. *What Is Living and What Is Dead in Classic European Philosophy of Technology?* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology*, p. 19-34.

The empirical turn represents a significant shift in the philosophy of technology, briefly characterized by Don Ihde as a change from monolithic, high-altitude, and transcendental perspectives on "Technology" to an empirical approach oriented towards "technologies" in their contextual and relational aspects[97]. The landmark book where this shift is first claimed was edited by the Dutch philosopher Hans Achterhuis in 1997, with the original title "From steam engine to cyborg: Thinking about technology in the new world" (*Van stoommachine tot cyborg: Denken over techniek in de nieuwe wereld*). It was translated into English in 1999 as *American Philosophy of Technology: The Empirical Turn*. The book consists of a compilation of six texts written by Dutch philosophers about the work of six well-known North American authors, with an introduction written by Achterhuis himself, who claims that: "[...] it is precisely the task of an empirically oriented philosophy of technology to understand the co-evolution of technology and society in modern culture, rather than to evaluate it on the basis of a priori criteria".[98].

It is interesting to stress that there are two main influences on these American authors, which were taken as inspiration by the promoters of the empirical turn. The first has its roots in a reading of Heidegger influenced by American pragmatism, which results in a very particular philosophical interpretation of German phenomenology in the case of Don Ihde. This reception made possible discussions that took phenomenology as a method to discuss particular "technological phenomena" like artificial intelligence, focal practices, and technological mediations. Especially in the case of Ihde, this pragmatic interpretation disconnects the question of technology in Heidegger's work from the history of metaphysics itself. This is highly present in the non-foundationalist approach adopted by other important authors influenced by the empirical turn, such as Verbeek and Feenberg.

Secondly, there is an influence of the philosophy of science developed in the second half of the 20th century in this empirically oriented philosophy of technology since

> [...] just as the earlier, Kuhn-inspired philosophers of science refused to treat science as monolithic, but found that it needed to be broken up into many different sciences each of which need to be independently analyzed, so the new philosophers of technology found the same had to be done with technology.[99]

[97] Achterhuis, H. (ed.). *American Philosophy of Technology: The Empirical Turn*, p. VIII
[98] ibid, p. 7.
[99] ibid, p. 6.

One of the main consequences of Kuhn's theory of scientific revolutions was that as sciences develop within the establishment of paradigms and revolutions, there would be no meaning in dealing with science as a unified phenomenon[100] since each science can be analyzed in its own set of structural changes. Similarly, the founding fathers of the empirical turn shifted their attention to how "technologies" can be followed through history if we pay attention to the co-evolution between the artifacts and the social structure that "involves" these technologies. The "black box" of technology was then opened by American authors such as Donna Haraway, Langdon Winner, and Andrew Feenberg[101]. By highlighting the local power structures and social relations that shaped technologies through their history of practices held by designers and users, these three authors were deeply influential in the empirical turn[102].

Moving on to the first objection commonly addressed to Heidegger and other classical philosophers of technology, it questions the monolithic character technology would have,[103] according to them. Claiming that the search for an essence of technology usually overlooks how fundamentally different types of technologies exist and how they can mold and shape our reality in various ways, the endorsers of the empirical turn argue that not all technologies are subject to the mode of revealing that enframing would impose, for instance, or other possible "macro-interpretations" of technology. Thus, approaches related to the empirical turn focus on analyzing how specific technologies can be contrasted and opposed when considering how they build different kinds of relations with the world. One significant implication of this development is the great diversity of technical objects studied by the philosophy of technology today, with research projects focusing more on practical and industrial challenges[104], and numerous discussions regarding the different methodologies that could be used in such investigations.

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[100] Consequently, we would discuss the sciences (in the plural and with small "s") and not Science (in the singular and with capital "S"). As the promoters of the empirical turn are influenced by this change in the philosophy of science, they usually delimitate their approach towards technologies and not Technology.

[101] Feenberg is probably the most peculiar case of these six authors, because as being a former disciple of Herbert Marcuse, his work is also very tributary to critical theory and the complex relation between Marcuse and Heidegger.

[102] As Achterhuis states, this can be labeled roughly as a constructivist influence on the empirical turn. Achterhuis, H. (ed.). *American Philosophy of Technology: The Empirical Turn*, p. 6.

[103] Verbeek, P-P. *What Things Do*, p. 61.

[104] An illustrative example of such a development is ESDIT - https://www.esdit.nl/

The second objection formulated by Feenberg[105] and other authors can be labeled as *substantivism*. According to Verbeek[106], substantivism has its roots in the interpretation that societies can be altered drastically by technology, as the latter is considered autonomous. In this sense, substantivism has two main characteristics. On the one hand, technology develops autonomously over time. It has its own inertial tendency and implies a force that is beyond human control. On the other hand, substantivism leads to the diagnosis that technology relates itself to human societies in just one way. For instance, technology as an independent force alters culture, but there is nothing humans can do to shape or stop technological development. Distancing themselves from these criticisms, the endorsers of the empirical turn emphasize debates around how the notion of human agency is modified by technology. For instance, human experience is understood by postphenomenologists as *mediated* by technological artifacts, and the basic assumptions of substantivism are replaced by inquiries into how specific artifacts transform perception and enable new forms of action.[107]

This refusal of substantivism has consequences for the ethics of technology, which could be roughly characterized in two different ways regarding the empirical turn. The first one is the discussion about the moral significance of technology[108]. This approach arises from the previous debate about agency and how ethicists of technology "expanded the notion of moral agency in such a way that technologies can be part of it or help to shape it"[109]. Moral mediation, for instance, is an approach that empirically tries to understand how technologies modify the way we understand and percept reality, consequently changing how moral decisions are made[110]. Secondly, the ethics of technology, influenced by the empirical turn, often emphasizes the role of morality in design[111]. One example of this kind of approach is value-sensitive design, which departs from the perspective of analyzing the values held by the stakeholders involved in the use of the technological artifact during the development process. These design methodologies tend to anticipate and mitigate

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[105] Feenberg, A. *Questioning Technology*, p. 1-17.
[106] Verbeek, P-P. *What Things Do*, p. 136.
[107] Verbeek, P-P. *Moralizing Technology*, p. 10-11.
[108] Verbeek, P-P. *The Empirical Turn* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology,* p. 43-44.
[109] ibid, p. 43.
[110] An example of these developments can be found at: Kudina, O. *The technological mediation of morality: value dynamism, and the complex interaction between ethics and technology*.
[111] Verbeek, P-P. *The Empirical Turn* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology,* p. 45-46.

the undesirable effects that technological developments could have on a specific social group, or foster particular practices and values that are understood as positive.[112]

The third objection made by Ihde[113] and Verbeek[114] regards how classical philosophers of technology perceive modern technology as a form of alienation and massification, threatening human existence and authenticity. This argument is reinforced by the comparison between old technologies as forms of "less-exploitative" technical activities and modern technologies as forms of exploitation (for instance, Ihde's claim on Heidegger's comparison between the old windmills and hydroelectric power plants[115]). This argument suggests a kind of residual technophobia present in the classic philosophers of technology, as if they were a continuation of 19th-century romanticism's position towards the Industrial Revolution. The authors of the empirical turn, consequently, tend to emphasize the ways we can anticipate and transform the outcomes of technological development because we can understand how technology changes how we perceive reality and act upon it.[116]

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[112] Davis, J., Nathan, L. P. *Value Sensitive Design: Applications, Adaptations, and Critiques*. In: van den Hoven, J., Vermaas, P., van de Poel, I. (eds) *Handbook of Ethics, Values, and Technological Design*.

[113] Ihde, D. *Postphenomenology and Technoscience*, p. 28.

[114] Verbeek, P-P. *What Things Do*, p. 10, 23-26. Although Verbeek explores the theme of alienation confronting more the work of Jaspers rather than Heidegger, he generalizes this thesis to the "classic philosophers of technology" several times.

[115] Ihde points out that "There is much in the Heideggerian choice of "good" and "bad" connotations that commentators have noticed. Heidegger "likes" the tools of the workshop, the peasant shoes of the Van Gogh painting, the watermill on the stream, the windmill, and the old stone bridge with its arches. He does not like hydroelectric dams on the Rhine River, the atomic bomb, even the modern steel bridge that routes traffic to the same city square as does the old stone bridge. Such a pattern would seem to evidence a simple and old-fashioned romanticism of a nostalgic sort and *I would not deny that such a strain may be a found in Heidegger*. But the issue is more complex than that." *Deromanticizing Heidegger* in Ihde, D. *Heidegger's Technologies*, p. 76. Later, Ihde in the same article complexifies this analysis by trying to find patterns through his mediation theory in Heidegger's examples of artifacts and cites how Heidegger's examples influenced deep ecology and even Langdon Winner. Although Ihde recognizes that Heidegger's argument is much more complex than "a simple romantic nostalgia about the Greek temple", he identifies a kind of residual romanticism in Heidegger. However, one can ask what is the objective of Ihde's argument after all? This excerpt seems quite clarifying then. "So, my demythologization of romanticism is also a critique. It is aimed at noting the freeing side of postmodern technological civilization and the opportunities that lie in its very networked ambiguity. Global pollution, the threat to the earth posed by our amplified powers, has also the promise of now seeing ourselves globally within a plurality of cultures. None of these should, or ought to be, romanticized. Rather, our emerging but still primitive awareness of pluriculture should be taken only as a threshold for simultaneously freeing ourselves of a past fraught with too frequently had ambiguities and opening ourselves to the uniqueness of a new world, equally ambiguous, but for the first time genuinely global." ibid, p. 85.

[116] It is clear that the historical *milieu* of the classical philosophers of technology was very important regarding their concern with the great catastrophes of the first half of the 20th century (that were made possible by technological development). However, as we will see, one of the main objections to the empirical turn is the political presuppositions and consequences of a theory that was heavily emptied of critical possibilities (Cf. section 2.5). It seems problematic to believe that local "descriptions" and "corrections" can face the huge ethical, political, and environmental challenges that we have nowadays regarding technological development.

The fourth objection highlighted here[117] could be seen as the reduction of concrete technological artifacts to their conditions of possibility, which is taken as a consequence of the transcendental approach to technology. In the case of Heidegger, enframing as the essence of technology would indeed show the conditions of possibility for reality to appear, since it is concerned with *the essence of technology*. However, this diagnostic would reduce all the possible modes of technological mediation to the abstract or transcendental logic of revealing beings as standing reserve. This objection has a clear relationship with a non-foundationalist view on technology that is common among authors of the empirical turn, like the postphenomenologists[118]. As they depart from a position that there is no way of searching for the essence of technology as a global phenomenon—because it would eventually make the analysis too transcendental or abstract—the alternative is to empirically describe particular modes of technological mediation. In this sense, phenomenology is taken as a tool or a minimum theoretical background with instrumental purposes in a pragmatic fashion[119], sometimes coupled with similar approaches like Actor-Network Theory.

Another trait often observed in the empirical turn (that distances it from transcendentalism) is the influence of STS. Rejecting the approach of classical philosophers of technology, STS scholars "look carefully at the inner workings of real technologies and their histories to see what is actually taking place."[120] This approach is usually regarded as empirical due to their fieldwork (for instance, in research and development laboratories), mixing theoretical background from the

[117] Verbeek, P-P. *What Things Do*, p. 91-95.
[118] The following excerpt is quite clarifying regarding the influence of American pragmatism in postphenomenology: "This attempt to overcome early modern epistemology, while using its terminology, I contend, doomed classical phenomenology to be understood and interpreted as a "subjective" style of philosophy. The pragmatists, by beginning with the vocabulary of practices instead of representations, avoided this problem. Listen to a contemporary pragmatist echoing this idea: Richard Rorty says, "The pragmatists tell us it is the vocabulary of practice rather than theory, of action rather than contemplation, in which one can say something about truth. [...] My first characterization of pragmatism is that it is simply anti-essentialism applied to notions like "truth," "knowledge," "language," "morality," and similar objects of philosophical theorizing. [...] So, pragmatists see the Platonic tradition as having outlived its usefulness. This does not mean that they have a new, non-Platonic set of answers to Platonic questions to offer, but rather they do not think we should ask those questions anymore." " Ihde, D. *Postphenomenology and Technoscience*, p. 10. The excerpt that Ihde quotes from Rorty can be found in: Rorty, R. *Consequences of Pragmatism*, p. 197.
[119] A critical discussion about the limits of the phenomenology that is present is postphenomenology can be found in: Zwier, J.; Blok, V.; Lemmens, P. (2016). Phenomenology and the Empirical Turn: a Phenomenological Analysis of Postphenomenology. *Philosophy and Technology*, 29 (4):313-333.
[120] Winner, L. (1993). Upon Opening the Black Box and Finding It Empty: Social Constructivism and the Philosophy of Technology. *Science, Technology, & Human Values*: 18(3), p. 364.

humanities with qualitative and quantitative methodologies from social sciences[121]. These investigations are directed toward the dynamics of technological change produced by the interactions between artifacts, users, designers, and other stakeholders. In seeking alternatives for the transcendentalism presented in the classic philosophy of technology, the "relativistic" approach is also a common aspect of STS investigations. As Winner points out:

> What social analysts do in this new focus is to study the "interpretive flexibility" of technical artifacts and their uses. One begins by noticing that people in different situations interpret the meaning of a particular machine or design of an instrument in different ways. People may use the same kind of artifact for widely different purposes. The meanings attached to a particular artifact and its uses can vary widely as well. In this way of seeing, sociologists and historians must locate the "relevant social groups" involved in the development of a particular technological device or system or process. They must pay attention to the variety of interpretations of what a particular technological entity in a process of development means and how people act in different ways to achieve their purposes within that process.[122]

Since we have recovered both Heidegger's concept of technology and the main objections of the empirical turn toward it, we now have a clearer notion of this "shift in the center of gravity"[123] in the philosophy of technology. Nevertheless, we still need to analyze the empirical turn in terms of its most recent debates, such as issues surrounding anthropogenesis, the Anthropocene, and its philosophical-political aspects, which are some of its alleged underdeveloped themes and theoretical gaps. This will be important because, later, we will address Sloterdijk's concept of technology and, consequently, analyze what contributions and new perspectives the philosophy of technology could gain from Sloterdijk's reading.

2.5
Challenges of taking technology as a philosophical question nowadays

One aspect of the empirical turn that can be highlighted is the lack of consideration of the phenomenon of anthropogenesis, or more broadly, the lack of interaction between evolutionary anthropology and the empirical turn, besides the

[121] A discussion about how multifarious the methods applied in STS are and how STS research discusses these methods can be found in: *STS as Method* in Felt, U., Fouché, R., Miller, C. A., Smith-Doerr, L. (Eds.). *The Handbook of Science and Technology Studies*. p. 31-58
[122] Winner, L. (1993). Upon Opening the Black Box and Finding It Empty: Social Constructivism and the Philosophy of Technology. *Science, Technology, & Human Values*: 18(3), p. 366.
[123] Achterhuis, H. (ed.). *American Philosophy of Technology: The Empirical Turn*, p. vii.

fruitful synergy that they can have both scientifically and philosophically. This hypothesis is corroborated when we observe an underexplored overlap or dialogue between the findings of the empirical turn and authors from the philosophical anthropology of the 20th century, such as Helmuth Plessner and Arnold Gehlen, or paleoanthropologists such as André Leroi-Gourhan.[124] Nevertheless, one advancement that can be highlighted is the attempt at a dialogue between Material Engagement Theory and postphenomenology[125], but this is only a very recent movement that could be seen as a starting point and not as a strong bond or deep relationship between them. For instance, how could we relate the concept of multistability or the modes of human-technology relations with the very particular evolutionary drift present in human biology, marked by phenomena such as the use of hunting tools and progressive bipedalism? Would it be possible to combine mediation theory with studies that show the role of technology in human evolution?

This lack of interaction is also surprising because, since postphenomenology does not require a foundational philosophical perspective, its interaction with scientific findings would be much less problematic than if we were to depart from phenomenology and hermeneutics, for instance[126]. Another relevant issue arises: Would it be possible to philosophically understand and critically engage with large-scale processes like human evolution without taking technology in a transcendental perspective?[127] If yes, how can it be done?

Moving on to another challenge to empirical turn, we can approach it in light of the Anthropocene. At the beginning of this century, the Dutch Nobel Laureate atmospheric chemist Paul Crutzen claimed that, due to the now well-known process of anthropogenic climate modification, we may be witnessing the rise of a new

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[124] Some of the few papers that discuss the mentioned overlapping are: Jos de Mul (2003) Digitally Mediated (Dis)embodiment, Information, Communication & Society, 6:2, 247-266. Verbeek, P. P. C. C. (2014); Plessner and technology: philosophical anthropology meets the posthuman. In J. de Mul (Ed.), *Plessner's philosophical anthropology: perspectives and prospects* (pp. 443-456); Funk, M. *Paleoanthropology and Social Robotics: Old and New Ways in Mediating Alterity Relations* in Jesper, A. et al, (Ed.) *Postphenomenological Methodologies.*

[125] Ihde, D., Malafouris, L. *Homo faber* Revisited: Postphenomenology and Material Engagement Theory. *Philos. Technol.* **32**, 195–214 (2019).

[126] As we explore in chapter 4, there is a complex situation if we want to investigate the interface between phenomenological hermeneutics and evolutionary anthropology. However, as explored by Ihde and Malafouris (2019), the interface between postphenomenology and Material Engaged Theory seems to be quite organic.

[127] It is important to highlight that Stiegler would have a lot to add to this topic, as he creatively combines transcendental thinking and evolutionary thinking, such as pursued by him with his concepts of epiphylogenesis and a-transcendentalism in *La technique et le temps*.

geological epoch, the so-called Anthropocene[128]. Besides all the scientific quarrels among natural scientists regarding the legitimacy of such a concept and the specification of a precise historical landmark for the Anthropocene[129], its impact has also reached the realms of the humanities. We live in an epoch in which it is no longer possible to take the Earth as a passive natural background, as the ecological catastrophe and the consequent unpredictability of its effects on human (and non-human) life become more and more apparent as time passes. Philosophical discussions about the human condition and what it means to engage in politics now also require new concepts.

Without committing to a full description of this broad debate, it is worth stressing that the Anthropocene is a phenomenon with great impacts on different areas of philosophy, such as ontology, ethics, aesthetics, and philosophy of science. It also triggers interesting discussions in the philosophy of technology, such as the debate between transcendental modes of characterizing Technology and the empirical turn. Regarding the latter, as some authors claim[130], the lack of a macro-scale analysis and investigations of technology in its planetary dimensions hinders the development of an adequate framework for considering the intrinsic technological dimension of the Anthropocene, in the sense that the *anthropos* as a geological force is only possible due to the immense power of large-scale transformations that technology enables.

Following this argument, we see how it could be difficult to fully tackle the philosophical question of understanding the ontological status of planetary technologies by taking a theoretical framework that is strictly empirical and non-foundationalist, such as postphenomenology. Does the Anthropocene call for a new "transcendentalist revival" or a "terrestrial turn"[131] in the philosophy of technology? Furthermore, if so, how can we do that without leaving behind the consideration of specific technological trajectories and their local contexts, as is frequently claimed by STS scholars?

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[128] Crutzen, P. J. (2002, November). The "anthropocene". In *Journal de Physique IV (Proceedings)* (Vol. 12, No. 10, pp. 1-5). EDP sciences.

[129] As explored by Bonneuil and Fressoz (2016), it is not simple to answer when the Anthropocene started. This question is complex because one of its aspects is entangling the origin of the Anthropocene with its conceptual definition and interpretation.

[130] Lemmens, P. Thinking Technology Big Again. Reconsidering the Question of the Transcendental and 'Technology with a Capital T' in the Light of the Anthropocene. *Found Sci* 27, 171–187 (2022).

[131] Lemmens, P., Blok, V., & Zwier, J Toward a terrestrial turn in philosophy of technology Guest editor's introduction. *Techne: Research in Philosophy and Technology*, 21(2–3): 114–126 (2017)

Another perspective underscored by the empirical turn, which has also been stressed by some authors, is the problem regarding the absence of a critical philosophical-political perspective in its analysis. The exclusive focus on specific artifacts and tools can blur the power relations and socio-economic conjunctures present at the macro-scale level, as it was deeply present in the characterization of technology by classical philosophers of technology, such as Herbert Marcuse. As Mitcham claims: "[...] just as neoliberalism declares, in Margaret Thatcher's famous words, - There is no such thing such as society - empirical turn philosophers of technology seem to imply there is no such thing as Technology with a capital T"[132].

Arguing that "the social ontology of neoliberalism finds a natural ally in what might be called a neoliberal philosophy of technology,"[133] we can also go beyond and question the political consequences of the empirical turn strategy of focusing exclusively on local descriptions and ethical solutions, which are more often concerned with responsible innovation policies and design frameworks. The peril of following this agenda strictly seems to be that there is no commitment to structurally questioning our mode of production or the will to efficiency, which could be addressed as the roots underlying most of the fundamental problems posed by "technologies." This perspective seems to be especially problematic in Global South countries, where vulnerability to the global effects of technological development is much higher since there is a clear amplification of those effects provoked by factors such as higher economic inequalities and political instabilities.

One "empirical" issue that can exemplify this claim is the problem of the new labor market of data markers hired to fulfill Artificial Intelligence training databases[134]. Regarding all the case studies of how AI algorithms mediate our experience with the world, apparently, none of them deal with the global economic structure that is part of the "conditions of possibility" for these technologies. How can we understand the possible mediation forms that gadgets like smartphones have on us without considering the pressure for ever-increasing profit rates present in the ICT industry? How can we inquire about how AI is shaping our daily relations with recommendation mechanisms if we do not think about the mechanisms of capturing

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[132] Mitcham, C. *What Is Living and What Is Dead in Classic European Philosophy of Technology?* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology*, p. 31.
[133] idem.
[134] https://www.technologyreview.com/2022/04/20/1050392/ai-industry-appen-scale-data-labels/

users' attention more and more, which are related to a consumerist imperative present in our post-industrial societies[135]? The same analysis can be applied to the problem of racial bias in AI algorithms used for recidivism prediction, such as the COMPAS case[136]. Without considering the economic environment and power structure that enables such companies to increase their "market value" by the pressure of more "efficiency" in the criminal courts, it will be hard to analyze the empirical issues of this case, as they seem intertwined with macro-scale power relations.

Until now, we have highlighted some theoretical challenges of the empirical turn, mainly regarding three "large-scale" phenomena: its political-philosophical presuppositions and consequences, human evolution, and the Anthropocene. These perspectives, therefore, raise some questions related to the *history of the philosophy of technology*: How can we face these challenges? Do we need another kind of "turn" in the philosophy of technology to confront them? Would it be left to us to "overcome" the empirical turn, just as it sought to overcome the classical philosophy of technology?

We will then critically engage with this internal movement of linear progression[137] that lies implicit in the empirical turn. Consequently, the confrontation with "tradition" and its "destruction"[138] to pave the way for new philosophical perspectives on technology is a central question for us. The metaphysical assumptions of this non-foundationalist perspective lead us to interpret it through the conceptual framework of a philosopher acknowledged for his original and insightful reading of the history of metaphysics—Martin Heidegger[139].

In order to interpret the empirical turn through a Heideggerian reading, we can draw on some of his appropriations of Nietzschean concepts, since Nietzsche is

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[135] An interesting discussion that can bring to the empirical turn a new perspective on those issues is pretend in: Stiegler, B. *Organology of Platform Capitalism* in *Nanjing Lectures*, p. 169-268.
[136] https://www.technologyreview.com/2017/06/12/105804/inspecting-algorithms-for-bias/
[137] We call it linear progression because the movement engendered by the empirical turn is really akin to that of modern sciences - a positive analysis in which the increasingly adequation between theoretical framework and empirical phenomena is a measurement of success.
[138] We understand *destruction* here as a process related to "the hermeneutical and critical dismantling of philosophical concepts, carried out in order to recover the insights that originally motivated them." Wrathall, M. *The Cambridge Heidegger Lexicon*, p. 223.
[139] As it is clear now, we have not directly answered the criticisms of the empirical turn directed to the classic philosophers of technology because this is not our aim here. The debate with the empirical turn is not a matter of building an apology of Heidegger. However, reading the empirical turn *through* Heidegger is an opportunity of highlighting how there is an intrinsic problematic character of how the empirical turn relates itself with the philosophical tradition - by a movement of *surpassing*, of leaving something *behind*.

the philosopher acknowledged by Heidegger as the last step in the consummation of metaphysics. Without committing ourselves to an extensive reading of Heidegger's interpretation of Nietzsche, we will pinpoint just a few helpful concepts for our analysis, such as the death of God, nihilism and the eternal recurrence of the same. Let's begin with the former. There is an interesting parallel between the question of the death of God in Nietzsche's thinking and the end of philosophy in Heidegger's formulation. When Nietzsche presents the death of God in aphorism 125 of the *Gay Science,* there is a subtle irony that makes part of the interpretation of the assassination of God, an all-powerful being who, of course, cannot be "killed." Clearly, Nietzsche refers to the loss of significance of God and the Christian religion as a source of the metaphysical foundation of an epoch and its possibility of political authority as truth. He then reveals the consequent ambiguity of a still-Christianized West that has "killed" its own foundations through a process of cultural secularization. The theological foundation of the West, supported by a monotheistic religion, was deeply challenged by the modern rationalization of the *cosmos*. As the accurate results of modern science slowly replaced the truth function of divine revelation, Western civilization shifted its understanding of humanity's teleological narrative about reality itself. As Alexander Koyré points out[140], we no longer live in a "closed world" of cosmo-theological order but in an "infinite universe" ruled and explained by science.

In the same way, when Heidegger claims that there would be an "end of philosophy", this is not a refusal of the possibility of doing philosophy in an academic sense, but a diagnosis of the consummation of philosophy as the last step in the history of metaphysics—being absorbed into the logic of scientific reasoning as cybernetics. To make our point as clear as possible—*philosophy in the age of cybernetics can be taken merely as an auxiliary tool for technological reasoning, reaching its "end"*. God is not "dead" in the shallow misinterpretation of the Nietzschean reading, and philosophy has not come to an end. However, it is progressively transforming itself into a useful tool for cybernetic control of human civilization, maneuvering all side effects of technological and scientific progress—in accord with the interpretation of technology's essence as enframing.

[140] Koyré, A. *From the Closed World to the Infinite Universe*

Then, the "danger" of leaving out a form of reflection upon technology in a transcendental mode could be the absence of questioning human existence since we are interwoven with technology. As we have previously discussed, it is not only that technology carries a risk of human extinction on the planet, because that would imply only an ontical perspective of the term. With this interpretation, we assume that questioning technology could be a *reflection* if it has the "courage to make the truth of our own presuppositions and the realm of our own goals into the things that most deserve to be called in question"[141]. This interrogative aim implies that the "philosophy of technology" could not be carried out only under the concern of "taming" technological devices and building design alternatives for our daily problems arising from new technological innovations. It is also important to highlight that this position does not diminish the importance of dealing with empirical questions regarding technology—we are not here to demonize technology[142] or to think that we can abstract ourselves into a reality that we do not need to deal with empirical questions - but its total lack of ontological questioning seems to be precisely what Heidegger addressed as the "end of philosophy." According to Heidegger,

> The end of philosophy proves to be the triumph of the manipulable arrangement of a scientific-technological world and of the social order proper to this world. The end of philosophy means: the beginning of the world civilization based upon Western European thinking.[143]

Therefore, we can interpret that there is a direct relationship between nihilism and the affirmation of philosophy (of technology) as a form of taming technology[144] and all its specializations or "new challenges." Apparently, since there are no possibilities of building grand narratives[145], what remains for the philosophy of technology is not only to embrace a "social ontology of neoliberalism"[146] but also to allow itself to become a form of cybernetic control and regulation of technological

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[141] Heidegger, M. *The Age of the World Picture* in *The question concerning technology and other essays*, p. 116. "*Besinnung ist der Mut, die Wahrheit der eigenen Voraussetzungen und den Raum der eigenen Ziele zum Fragwürdigsten zu machen*"

[142] As Heidegger also states several times, such as in Wisser, R. *Entretien du Professeur Richard Wisser avec Martin Heidegger* in Haar, M. (ed.) *L'Herne - Martin Heidegger*, 1983, p. 95.

[143] Heidegger, M. *The End of Philosophy and the Task of Thinking* in *On Time and Being*, p. 59.

[144] In this sense, if we take Heidegger's account on the persistence of metaphysics nowadays through scientific worldview, it is possible to interpret that even a "philosophy of technology" can still be deeply metaphysical.

[145] In some sense, transhumanism also positions itself as a grand narrative, since it has a clear teleological perspective on human existence.

[146] Mitcham, C. *What Is Living and What Is Dead in Classic European Philosophy of Technology?* in Vallor, S. (ed.), *The Oxford Handbook of Philosophy of Technology*, p. 31.

undesirable outcomes. Moreover, according to Heidegger, the most dramatic aspect of the "end" of philosophy is that it would not be the end but the beginning of world civilization—probably because it is only *through* this process of endless expansion that technology, as a mode of revealing, can keep itself on track.

Now that we have questioned the problematic aspect of the cybernetic element in the empirical turn, we can move to the term "turn," taking one possible interpretation of Heidegger's reading on the eternal recurrence of the same. As stated by Gianni Vattimo[147], one possible interpretation of the eternal recurrence of the same regarding the history of metaphysics is that modernity has as one of its fundamental tenets a recurring attempt to get rid of its past by a critical movement, inaugurating something new. Metaphysics is then a repetitive movement of setting "new" beginnings because novelty has a kind of value in itself. It is paradoxically an *instauration of the new as a repetition of the past* since the same procedure is done over and over again. After all, the tradition is continuously appropriated with the same critical claim of being rejected while building a brand-new foundation. Curiously, it is not surprising that Heidegger interprets Nietzsche's metaphysics, composed of the will to power and the doctrine of the eternal recurrence of the same, as an inversion of platonic philosophy, but still trapped inside the metaphysical tradition of the West as the last episode of the forgetting of Being (*Seinsvergessenheit*)[148].

Then, taking *enframing* as the consummation of metaphysics would imply problematizing the idea of receiving our philosophical tradition merely to surpass it, in the sense that we could move beyond modernity by simply discarding metaphysics by autonomously choosing to overcome it. As Heidegger claims: "Metaphysics cannot be abolished like an opinion. One can by no means leave it behind as a doctrine no longer believed and represented".[149]

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[147] Vattimo, G. (1987). "Verwindung": Nihilism and the Postmodern in Philosophy *Substance, 16*, 7.

[148] "The pronouncement "God is dead" means: The suprasensory world is without effective power. It bestows no life. Metaphysics, i.e., for Nietzsche Western philosophy understood as Platonism, is at an end. Nietzsche understands his own philosophy as the countermovement to metaphysics, and that means for him a movement in opposition to Platonism.
Nevertheless, as a mere countermovement it necessarily remains, as does everything "anti/' held fast in the essence of that over against which it moves. Nietzsche's countermovement against metaphysics is, as the mere turning upside down of metaphysics, an inextricable entanglement in metaphysics, in such a way, indeed, that metaphysics is cut off from its essence and, as metaphysics, is never able to think its own essence. Therefore, what actually happens in metaphysics and as metaphysics itself remains hidden by metaphysics and for metaphysics". Heidegger, M. *The Word of Nietzsche: "God is Dead"* in *The question concerning technology and other essays*, p. 61.

[149] Heidegger, M, *Overcoming Metaphysics* in *The end of philosophy*, p. 85.

Taking up this question, Vattimo highlights the interpretation of what could be called deflection (*Verwindung*), a word not often used by Heidegger, in contrast to overcoming (*Überwindung*). Deflection would carry within it a different possibility than merely turning around and leaving the past behind as something defeated or as in Hegelian dialectical sublimation (*Aufhebung*). Deflection would mean both an *acceptance* - since the past is received in its power of conditioning our present possibilities of thinking—and a *distortion*—as we do not evade a critical reception of the past. We also shall not identify deflection with the desire to find a new absolute ground (as a repetition of the past), nor with a passive resignation to the destiny of enframing. In this sense, *Verwindung* carries many similarities to how we interpret the Heideggerian releasement (*Gelassenheit*)[150], a fundamental concept also relevant to the question of technology as an existential mood of "letting things be" in opposition to modern calculative thinking. But what is this discussion's relevance to our narrative about the empirical turn?

As we can see, the philosophers of the empirical turn, by labeling themselves as a kind of "step forward" in the philosophy of technology, fall precisely into what Vattimo claims to be a "repetition of the past by inauguration of the new."[151] Labeling several authors with structural differences—like Heidegger and Ellul—as "classical", the empirical turn aims to be non-foundationalist by offering a new framework more "adequate" to the "empirical reality of artifacts". But how can we avoid falling precisely into these metaphysical assumptions that underlie the empirical turn?

In this sense, the philosophy of technology does not seem to need another "turn," as if, in a metaphysical attitude, we could surpass the classical philosophers of technology or the empirical turn by reclaiming that "now" we are more "adequate" to current needs or trends. Then, our objective in this work is to interpret the thinking of an author—Peter Sloterdijk, in our case—and confront it with our task of questioning technology. From our perspective, taking technology as a philosophical question means leaving it open in its problematicity and receiving the past as a

[150] Heidegger, M. *Memorial Address* in *Discourse on Thinking*, 1966

[151] Vattimo, G. "Verwindung": Nihilism and the Postmodern in Philosophy. "Repetition of the past by inauguration of the new" would mean here a movement of constantly trying to get rid of the past (heavily criticizing a tradition and breaking the bonds with it) as an attempt of inaugurating a new way of thinking more suitable than the previous one. The issue is that modernity began this tradition, which is then repeated over and over again, creating in some sense an eternal recurrence of the same within the history of metaphysics.

possibility of thinking, not as a barrier to be overcome. Nevertheless, can we still have such an experience nowadays? Or, as remarked by Jean-Luc Nancy: "What Heidegger means by the "task of thought" – at least what we can indicate – is this: are we going to stand before the untenable? Or are we going to continue to be satisfied with our poor philosophical autonomy?"[152]

2.6
Transition I

Delving into how technology is considered our contemporary condition, we have seen that the task of thinking is deeply linked with the necessity of opening horizons in which technology can still be questioned. In this sense, we understand that philosophical questions can be revisited over and over again, and each approach leads us to new perspectives about the *untenability of our age*[153]. Consequently, we will see how the work of Peter Sloterdijk provides a fertile ground for interrogating technology and the limits of what we call philosophy. Important themes such as the Anthropocene and AI will be analyzed both for their empirical aspects (the way these phenomena modulate our intentional structures) and their conditions of possibility (the way in which they make our world appear as such) in Chapter 6. Nevertheless, we first need to understand how the concept of technology appears in Sloterdijk's work, which will be the aim of Chapters 3, 4, and 5.

[152] Nancy, J-L. *The End of Philosophy and the Task of Thinking*. Published at https://www.philosophy-world-democracy.org/other-beginning/the-end-of-philosophy.
[153] We address here the untenability of our age as a point already mentioned in the introduction of the present work. We face a situation where technology in its planetary state is the most near to us (due to its presence) and also the most distant (in terms of comprehension, since we still act as if we are certain about what technology really is).

3
Critique and existence

> *Where human beings emerge, they are not a biological species like all the rest that bustle about under the premade light [Licht] of the sun; rather, it is the clearing [Lichtung] that occurs there, the clearing for whose inhabitants alone can it be the case that 'there is a world.* [154]

3.1
A brief note on Sloterdijk's work

Peter Sloterdijk has been hailed by academia as one of the most original philosophers alive today. With a vast *oeuvre* still growing, it is difficult to map and propose an axis for its trajectory, although some introductory comments can be made. The work that propelled him onto the philosophical scene was published in 1983 under the title *Critique of Cynical Reason.* It became one of the best-selling philosophy books in Germany, in the second half of the 20th century[155]. Its title is a clear reference to Kant's *Critique of Pure Reason,* which celebrated its 200th anniversary in 1981. In 1999, his name returned to the spotlight of the German philosophical scene due to the notorious talk named *Rules for the Human Park*—an essay that initiated a quarrel with Habermas and his followers, particularly around the theme of eugenics and anthropotechnology, becoming a central issue both in the academic debate and in the mass media[156]. However, this controversy seems to have overshadowed the publication of Sloterdijk's most breathtaking and undeniably his most audacious work—the *Spheres* trilogy. Consisting of three volumes published in 1998, 1999, and 2004, with more than 2500 pages in its original German version, it is currently translated into several languages, including Spanish, English, and French. In addition to the trilogy, other works worth mentioning are *Not Saved: Essays after Heidegger* (2001), *Rage and Time: A Psychopolitical Investigation* (2006), *You Must Change Your Life* (2008), and *What Happened in the 20th Century?* (2016). Although it is possible to observe some books and special issues

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[154] Sloterdijk, P. *Not Saved*, p. 176
[155] https://www.suhrkamp.de/person/peter-sloterdijk-p-4620
[156] For a detailed analysis of such a discussion one can consult: Marques (2002), Nennen (2003) and Sloterdijk, P. *Neither Sun nor Death The Human-Park Speech and its Aftermath* in *Neither Sun Nor Death*, p. 45-136.

dedicated to Sloterdijk's main philosophical tenets[157], a broad academic reception does not yet exist, especially in the field of philosophy of technology[158].

An inhibiting factor for its reception on a more regular basis is the intrinsic difficulty in systematizing Sloterdijk's thought, as is usually done with other authors. The definition of specific periods that classify their production according to shared characteristics, or the reference of his approach to some sharply defined "school" or "research program," does not seem to be captured at first glance. This difficulty can be attributed to several possible interpretations raised below.

Firstly, one can highlight the size and variety of his work, which is still in progress, as the author is fully active and does not seem content with the more than 50 volumes published so far. His texts cover quite different themes and forms, ranging from essays to more "systematic" books, from political philosophy[159] to the history of psychoanalysis[160], all published at rather short intervals.

The second point concerns a characteristic present throughout the oeuvre: a very solid erudition, offering the reader an immense number of secondary references on a wide range of topics (general history, history of philosophy, theology, sociology, anthropology, literature, psychoanalysis, history of art, history of science, etc.). This abundance of sources makes it difficult to map and discuss Sloterdijk's main influences with more depth and rigor.

Another characteristic is the relatively low number of secondary references, given that the author is quite young in the timeline of the history of philosophy (even within the philosophy of technology). When we look at authors from ancient philosophy, such as Plato (or even authors from contemporary philosophy considered "inescapable" due to their influence, such as Heidegger and Wittgenstein), there is a multitude of "commentators" who have already formed groups or trends of interpretation of the author and their works, in addition to biographical works

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[157] Couture, J-P., *Sloterdijk*; Elden, S. (ed.), *Sloterdijk Now*/; van Tuinen, S. *Peter Sloterdijk: Ein Profil*; Schinkel, W. and Liesbeth Noordegraaf-Eelens, L. (eds.), *In Medias Res: Peter Sloterdijk's Spherological Poetics of Being*. Roney, P. and Rossi, A. (eds.), "Sloterdijk's Anthropotechnics," *Angelaki: Journal of the Theoretical Humanities* 26, no. 1 (2021); van Tuinen, S (eds.), "Special Issue on Peter Sloterdijk", *Cultural Politics*, no. 3, (2007); Elden, S.; Mendieta, E., Thrift, Nigel. (eds.), "The Worlds of Peter Sloterdijk", *Environment and Planning D: Society and Space* 27, no. 1 (2009)

[158] The main paper found which discusses this issue is the one already mentioned as part of the current doctoral research project: Barros, M. F. de; Pavanini, M.; Lemmens, P. Peter Sloterdijk's Philosophy of Technology: From Anthropogenesis to the Anthropocene. *Technophany, A Journal for Philosophy and Technology*, *[S. l.]*, v. 1, n. 2, p. 84–123. There is also a discussion present in Sylla, B. Traços fundamentais do pensamento de Sloterdijk sobre a técnica/tecnologia. *Trans/Form/Ação*. v. 44, n. spe, pp. 141-162, 2021.

[159] Sloterdijk, P, *Im selben Boot. Versuch über die Hyperpolitik*.

[160] Sloterdijk, P. *Der Zauberbaum, Entstehung der Psychoanalyse im Jahr 1785*.

and those responsible for investigating their reception in the history of thought. To focus on Sloterdijk's work is to accompany a thinker who is still active, always running the "risk" of being surprised by new movements and possibilities.

The final point is the fact that Sloterdijk often assumes the role of public intellectual on very diverse topics, holding positions that spark controversy in the media, as they are, in most cases, more *provocative* than *propositional*[161]. Such events lead to a tendency for a rapid "labeling" of the thinker without effectively investigating the theoretical concepts beneath his positions[162]One could point to something called rhetorical ambivalence here. If Sloterdijk becomes a complex thinker due to the erudition and multiplicity of sources in his books, this is, on the other hand, coupled with intentional provocation in his public statements and interviews.

3.2
Technical surrealism - between politics and technology[163]

Now that we have briefly discussed some issues in Sloterdijk's work, we can examine his early understanding of technology. In the same way, this should not divert us from our guiding hypothesis that, even though the concept of technology is mentioned in the development of the *Critique of Cynical Reason*, it is not considered in itself as a central philosophical question, as it will be in later moments of Sloterdijk's work. However, by paying attention to how technology was understood and used discursively by various groups from different ideological backgrounds at this point in his work, Sloterdijk remains reasonably aligned with the conception of technology present in the first generation of Critical Theory. Nevertheless, to analyze this claim more clearly, it is necessary to approach how Adorno and Horkheimer developed it in *Dialectic of Enlightenment*.

Much like the concept of reason, technology should be understood dually in the *Dialectic of Enlightenment*. Initially, akin to philosophical modernity, reason is seen as an enabler of human emancipation, as a necessary form of theorizing and

[161] Such is the conclusion reached when observing the controversies with Habermas on genetic engineering and with Axel Honneth on the tax system.
[162] In the following text one can find the analysis of Sloterdijk's most famous public affairs Couture, J-P. *A Public Intellectual* in Elden, S. (Ed.) *Sloterdijk Now*, p. 96-113.
[163] A part of this section was already published in: Barros, M. F. de; Lemmens, P. Pavanini, M. *Peter Sloterdijk's Philosophy of Technology - From Anthropogenesis to the Anthropocene*.

acquiring knowledge about the world, and also as the emergence of technology, as it functions as a metabolism between humans and nature. Thus, reason provides individuals with the capacity for abstraction, conceptual mastery over reality, and, more concretely, the means by which modern societies dominate nature, i.e., technology.

However, while being a means of human knowledge about the world, this emancipatory reason produces possibilities of generating harmful consequences, as mentioned in Chapter 2. Technology can also be a mode of oppression and an enabler of technocratic regimes. In the same way, technology is what makes a metabolic relationship between humans and nature possible. Adorno and Horkheimer will argue that it also creates a psychic metabolism between humans and their desires, as there is a libidinal economy that involves institutions and social order. This arrangement of subjects, who are confined by the technopolitical apparatus they create, leads them to suppress themselves due to the necessity of efficiently organizing the complex social structure in which they are inserted. It is then easier to see how the authors of the Frankfurt School understand technology as an apparatus of social domination and a drive for reification.[164]

These initial statements reveal that the concept of technology used by Adorno and Horkheimer incorporates both Marxist and psychoanalytic foundations[165], formulating a theory that allows for the alteration of reality as a way to "correct" the project of modernity. On the one hand, technology is seen as enabling a superstructure of domination in contemporary capitalist societies, as it sustains the capital accumulation process of dominant classes. On the other hand, technology is interpreted with a Freud-inspired framework of the libidinal economy of contemporary individuals, as the technically administered and organized society requires the repression of desires inherent in individuals' psychic structures. This way in which technology is understood leads Critical Theory to play a role as a constant reflexive force to make enlightenment assimilate its own contradictions and regressive tendencies[166].

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[164] Delanty, G., Harris, N., Critical theory and the question of technology: The Frankfurt School revisited, 2021, *Thesis Eleven*, p.88-108, v. 166, 1.
[165] Fernandes, M. *Theodor W. Adorno e Max Horkheimer* in Oliveira, J. (Org.) *Filosofia da Tecnologia - Seus autores e seus problemas, vol 2* p. 305-312.
[166] Adorno, Theodor and Horkheimer, Max. *Dialectic of Enlightenment,* p.17

It is also fundamental to highlight that the work of Max Weber is influential for Adorno and Horkheimer, as the narrative of technology is related to the process of disenchantment of the world by instrumental rationality. This adoption of Weber analysis can be seen as partially responsible for Adorno and Horkheimer taking technology beyond the comprehension of technical artifacts and machines, as is sometimes understood through the Marxist lens.[167] This influence also shows how Critical Theory is committed to being a social theory, rooted in the analysis of historical sources and sociological frameworks.

In this context, technology can be seen within the sharper issue of technocracy. According to Adorno and Horkheimer, technocracy can be defined as fundamental in understanding the structure of contemporary mass societies[168]. The legitimization of technology by its efficient outcomes grants technical experts the power to determine the course of human societies, leading to technology's colonization of the political world. Life's organization through instrumental reason perpetuates modernity's project, stifling how individuals could critically engage in society. This leads to mass society's technical artifacts, like radio and television, being conceived as symbols of this technological domination.[169]

Within the foundation of Critical Theory, technology can be understood as a dual phenomenon—it is both a pivotal part of the realization of modernity's project and central to its regressive and mystifying consequences. Regarding the latter, for instance, the ideology of contemporary consumer societies can be understood as heavily dependent upon technological innovations. This conception of technology largely derives from its intimate relationship with reason, often appearing as its application. The following excerpt, perhaps, is where Adorno and Horkheimer most clearly address the question of technology.

> Technical rationality today is the rationality of domination. It is the compulsive character of a society alienated from itself. Automobiles, bombs, and films hold the totality together until their leveling element demonstrates its power against the very system of injustice it served. For the present the technology of the culture industry confines itself to standardization and mass production and sacrifices what once distinguished the logic of the work from that of society. *These adverse effects, however,*

[167] Delanty, G., Harris, N., Critical theory and the question of technology: The Frankfurt School revisited.
[168] Fernandes, M. *Theodor W. Adorno e Max Horkheimer* in Oliveira, J. (Org.) *Filosofia da Tecnologia - Seus autores e seus problemas, vol 2,* p. 310.
[169] ibid.

> *should not be attributed to the internal laws of technology itself but to its function within the economy today.*[170]

Therefore, there is a tendency to conflate the very concept of technology with its social and political consequences, as analyzed within Adorno and Horkheimer's framework[171], rather than treating it as a central philosophical issue in itself. As we will see later, this will be one of the main shifts in Sloterdijk's understanding of technology. While he moves away from a philosophical project of renewing Critical Theory, he simultaneously adopts an onto-anthropological perspective on technology, which implies both a characterization of the latter as a phenomenon with its own logic and the relation of the human condition as being totally attached to a technical process of insulation, mediation, and alteration of its habitat.

In Sloterdijk's particular case, themes like the relation between Third Reich propaganda and the marketing of prostheses for disabled people are some of the pinpointed examples explored in *Critique of Cynical Reason*. At that moment, what was particularly interesting for Sloterdijk was seeing how technology is also an essential factor in producing a *critique* of culture and how it was ambivalently present in the discourses surrounding the emergence of totalitarian regimes in the 20th century, especially regarding the Weimar Republic. For instance, in the eighth chapter of the fourth part of the book entitled *Artificial Limbs - On the Spirit of Technology Functional Cynicisms II*, Sloterdijk recalls the army of amputated yet prosthetized combatants who had returned from the killing fields of the First World War and were roaming the urban regions of Weimar Germany. The patched-up *Homo protheticus* appearing there on the scene, impaired yet compensated by robust artificial limbs made of wood and iron, became a kind of hero in the eyes of bourgeois thinkers, who began to perceive technology in a resolutely affirmative way as a source of self-empowerment through self-prosthetization, thereby breaking with the older, humanist perception of technology as an alienating and disempowering force.[172]

Sloterdijk mentions authors such as Hans Freyer and Friedrich Dessauer, who wholeheartedly embraced technology as quintessentially human and human-

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[170] Adorno, T., Horkheimer, M. *Dialectics of Enlightenment*, p. 95 (our italics)
[171] It is acknowledged that Critical Theory first generation can be understood with more nuances. We may point as examples authors like Walter Benjamin and Herbert Marcuse, who have different approaches and works with significant influence on the philosophy of technology, such as *The Work of Art in the Age of Technical Reproduction* and *The Unidimensional Man*. Still, our primary reference here is the analysis employed by Adorno and Horkheimer in *The Dialectic of Enlightenment.*
[172] Sloterdijk, P. *Critique of Cynical Reason*, p. 446–449.

empowering, with the former glorifying the technological will to power of the modern subject as marking the nobility of European humankind as "Man the Conqueror"[173]. He accuses these hyper-Promethean Weimar philosophies of technology of their reluctance to acknowledge any neediness or suffering as inseparably belonging to the human condition and of remaining blind to the destructive impacts of technology, instead presenting it as the panacea for all of humanity's problems[174]. He agrees with Dessauer, though, that technical inventions are to be understood as "ontological enrichments in the inventory of existence"[175], a thought that he will later submit against Heidegger's ontological analysis of technology as a threat to the authenticity of human existence[176]. In his critical observation that at the heart of Dessauer's theory of technology "stands a subject who can no longer suffer because it has become wholly prosthesis"[177], he is suggesting that this thought preludes to some extent the current high-tech fantasies of transhumanism and extropianism to create an invulnerable, technologically enhanced "superhuman"—fantasies which the later Sloterdijk rejects as highly impractical and implausible[178].

We claim that even though Sloterdijk operates some insightful ideas in the *Critique of Cynical Reason* about technology, he still gives scant attention to it, engaging himself most of the time with how technology is a very ambiguous topic in the Weimar Republic. In this context, technology (e.g., the prosthesis of the First World War combatants) is simultaneously a symbol of "heroic tasks" to bourgeois thinkers and the macabre marks of the war experience. Consequently, it is reasonable to state that Sloterdijk, in *Critique of Cynical Reason*, does not distance himself from how Adorno and Horkheimer deal with technology in *Dialectics of Enlightenment*. For all of them, the modernity project as progress through technological development remains extremely tied to the technical rationality as a source of domination and reification.

3.3
Planetary mobilization

[173] ibid., p. 450.
[174] ibid., p. 457.
[175] ibid., p. 456.
[176] Sloterdijk, P. *Not Saved*, p. 247. As we will see in chapter 4, Sloterdijk sometimes offers a reading of Heidegger's later thinking that can be very problematic if we take the latter seriously.
[177] Sloterdijk, P. *Not Saved*, p. 456.
[178] Sloterdijk, P. *Not Saved*, p. 127–128.

As we have seen, the concept of technology does not play a central role in *Critique of Cynical Reason*. This situation remains the case throughout works from the 1980s, such as *Thinker on Stage* (1986), *Zur Welt kommen - Zur Sprache kommen* (1987), and *Der Zauberbaum* (1987). However, this scenario seems to shift in *Infinite Mobilization* (1989). For the primary goal of the thesis, understanding this shift is crucial, as it provides another perspective on Sloterdijk's conception of technology. Therefore, this section aims to present the development of the technology concept in *Infinite Mobilization* and later explore its broader connection with Sloterdijk's entire body of work.

While we will not conduct an exhaustive analysis of *Infinite Mobilization*, two main themes are important for our approach. The first one deals with the book's central issue: the characterization and subsequent critique of modernity as a kinetic project. In this context, the modern era's development can be understood as a method to engage with reality through its mobilization and transformation. Underlying this analysis is the idea that the concepts of movement and reality transformation are seen as an ontological foundation of what was developed in the history of the West. The second theme concerns the notion of *coming-into-the-world* as an attempt to critically address the development of Heidegger's *being-in-the-world* thesis.

Now, we can delve deeper into understanding the critique of modernity as a kinetic project. Methodologically speaking, Sloterdijk aims to offer alternatives to critical theory, in the sense that it would still be possible to renew it. However, a shift in the object of analysis is necessary for this endeavor. As Sloterdijk points out: “Thus, the following pages contain a new version of critical theory in its embryonic form – not of “society” but of the Western type of progressive process that is played out by modern societies”.[179]

Critical theory should not focus solely on society and its contradictions but, as he suggests, on the epochal process in which the “westernization” of the globe manifests itself as a mobilization process. The concern here lies in a process involving not just modernity but also the original project of a critical theory, as both present alternatives to reshape reality and are, therefore, modes of mobilization. “The modern project is thus established on the basis of a *kinetic utopia* – something that

[179] Sloterdijk, P. *Infinite Mobilization*, p. ix - x.

has never been explicitly articulated: the total movement of the world is to be the implementation of our plans for it"[180]

For Sloterdijk, it is crucial to understand the modernity project as an attempt to translate plans into reality more effectively. The problem seems to be that, in aiming to alter reality, more is always set in motion than initially intended, since there is no guarantee of an isomorphism between reality and representation. This *kinetic utopia* leads us to a series of unforeseen consequences, whether from humanist, communist, or liberal projects of societal transformation. The real, when mobilized, is also its excess.

> With mounting unease, we watch as the self-perpetuating side-effects of modern progress spill over into the controlled projects; a fatally foreign movement breaks off from this very core of the modern enterprise, from within the consciousness of a spontaneous independence that is guided by reason – and it slips away from us in every direction. What looked like a controlled uprising towards freedom turns out to be a slide into an uncontrollable and catastrophic hetero-mobility. Precisely because so much comes about *through* our actions, just as we have planned, developments as a whole turn out explosively and affect us quite differently.

A second issue regarding modernity as a project to mobilize reality is that we are not just seeking mobilization. Instead, *increasing mobilization capacity* becomes the goal. Thus, the "westernization" of the planet involves not only applying science and technology to transform reality but also applying modernity as a method for its development. "This provides us with the formula of the modernizing process: progress is movement towards movement, movement towards greater movement, and movement towards an increased ability to move".[181]

Sloterdijk also finds problematic the relationship between theory and *praxis* in the critiques of modernity formulated throughout the 20th century. By focusing primarily on modernity's material conditions and libidinal economy, they overlook its primary object, i.e., its ontological foundation. For instance, viewing Marxist surplus value theory from this angle, wealth accumulation resulting from capital flows would be an epiphenomenon of the mobilization process. In contrast, historical materialism seeks to locate modernity's ontological principle in a political-economic dimension. Even though many critiques and debates can challenge

[180] ibid, p. 2.
[181] ibid, p. 7.

Sloterdijk's perspective, the diagnosis of modernity as the formation of a subject that fulfills itself by expanding its capabilities throughout the planet aligns with many other well-established theoretical structures of 20th-century philosophy[182]. Regarding this process, Sloterdijk poses the following question:

> Can we conceive of a way of being where the system-subjects would no longer be driven forward by their self-advancement propellers? Does a prospect even exist for us where the powers of the subject generate something other than otherworldly acceleration, enrichment, research, and empowerment?[183]

By presenting *tachocracy* as the real expression of modern technocracy[184], we can see that even though he positions himself as a potential re-editor of critical theory, Sloterdijk makes a significant shift in *Infinite Mobilization* when he addresses technology. This change is especially noticeable when we see how the thesis that "ontologically, modernity is a pure being-towards-movement"[185] resonates with Heidegger's later concept of enframing. Both authors here are concerned with the ontological basis that underlines modernity as an epochal process, in which technology plays a role as an expression of how human beings in a specific epoch comprehend the totality of beings as a cybernetical, never-ending process.

We can then see how the concept of technology changes from being seen as a manifestation of the instrumental reason in the *Critique of Cynical Reason* to being associated with the *modus operandi* underlying modernity as such in *Infinite Mobilization*. As time passes by, technology is understood less from an ontic perspective, represented by technical objects as expressions of a socio-cultural reality, and more ontologically, as it becomes the drive behind the westernization of the planet. However, we will see that this argument alone is not sufficient to explain how Sloterdijk will thematize technology later in works like *The Domestication of Being* and the *Spheres* trilogy. To grasp such a change, we still need to address what we may call an onto-anthropological turn in his thinking, mainly by analyzing works such as *Weltfremdheit* and *Im selben Boot*.

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[182] Heidegger's characterization of technology can be settled as one possible example.
[183] Sloterdijk, P. *Infinite Mobilization*, p. 28.
[184] ibid, p.18-19.
[185] ibid, p. 9.

3.4
Inklings of an onto-anthropological turn[186]

As we will explore, the idea of technology being approached from an ontological perspective resonates with a central theme for understanding Sloterdijk's philosophy—the issue of "coming-into-the-world" (*zur-Welt-kommen*). This theme emerges from the necessity to readdress a question left unanswered by Heidegger, which finds various extensions in Sloterdijk's philosophy. How can we understand the becoming of the *Dasein*?

As we know, the early stages of Heidegger's fundamental ontology in *Being and Time* focused on shifting Husserl's concept of intentionality towards more "factual" bases, i.e., a lifeworld that incorporates the facticity of the experienced world as a form of shifting Husserlian concepts such as "transcendental consciousness". This shift means that in *Being and Time*, the very concept of "world" is developed beyond materialist naturalism or transcendental idealism, as Heidegger rejects the modern metaphysical assumption of a radical division between subject and object. In his case, this rejection is manifested by the claim that a fundamental constitution of *Dasein* is *being-in-the-world*. This shift hinges on the phenomenological-hermeneutic exploration of the being, which inherently collects the other beings into a totality of meaning. Simultaneously, this being is perpetually propelled in anticipatory movement due to its time-bounded existence, always finding itself already "thrown" into a world. In other words, the ability to unveil a world is always preconditioned by the world that *Dasein* itself both dwells and constitutes. This development leads us to a widely recognized point: the finitude of *Dasein* is a central feature of *Being and Time*. One cannot contemplate *Dasein*'s temporal structure without considering the horizon of its potential existence and, consequently, also its potential non-existence. In this sense, *Dasein* is always being-towards-death. Death in *Being and Time* is taken not just as one of the many possible ontical events that *Dasein* faces, but as "the ownmost possibility, which is non-relational, not to be outstripped, and certain, is indefinite regards its certainty".[187]

However, by emphasizing these aspects of finitude and the ecstatic nature of existence—a mode of existence defined by the opening up of its temporalization—

[186] A significant part of this section was already published in Barros, M. F. de; Lemmens, P. Pavanini, M. *Peter Sloterdijk's Philosophy of Technology - From Anthropogenesis to the Anthropocene*.
[187] Heidegger, M. *Being and Time*. p. 310.

Heidegger left the issue of the "genesis" of existence unexplored. This complex relationship between life and existence in Heidegger's philosophy is partly due to the tension raised in *Being and Time* between "positive sciences that deal with the question of the human" and the methodological presuppositions of a fundamental ontology. As we will see later[188], even when Heidegger opened up a dialogue with biologists of his time, he did not take their scientific results for granted, as existential analytics inquires about the notion of science as a possibility of *Dasein* opened by a particular onto-historical epoch[189].

Consequently, several questions could be asked in order to address this tension. Does existential analytics offer a way to reflect on *Dasein*'s relation with life as a flux of changing factual conditions with ontological implications? Hence, how can we incorporate birth as a phenomenon worthy of existential concern?[190] How do we understand life in an existential sense that also accommodates the dynamic transformation that characterizes the living? As noted, Heidegger left these questions open-ended. Even though he explored the concept of organism and animality in his 1929/30 winter course, it suggests the unfinished nature of his inquiries regarding the "motility of life"[191]. In the same way, if we inquire about the relationship between Heidegger's philosophy and the question of birth, we can notice that:

> In *Sein und Zeit*, Heidegger has dealt in detail with being-towards-death. Yet to the totality of *Dasein* belongs also the other end, birth, and that theme was not examined at all. As a consequence, the orientation of the existential analytic has been, as Heidegger himself admits, "one-sided".[192]

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[188] This discussion is carried out in section 4.2 of the present work.

[189] Heidegger, M. *Introduction to Philosophy*, p. 30.

[190] Although Sloterdijk takes for granted that birth is a phenomenon worthy of existential concern in several works, such as *Weltfremdtheit*, *Bubbles* and *Infinite Mobilization*, this is a very complex task if we take Heidegger's perspective. The whole structure of *Being and Time* takes as a central point the finitude of the *Dasein* because ontologically speaking, this finitude is in the core of a temporalized existence as a permanent horizon of anticipation.But the question that remains is: In footnote 188 we present one of the few passages from *Being and Time* in which Heidegger mentions this question.

[191] We will explore these issues in chapter 4 in a more detailed way.

[192] Loparic, Z. Heidegger on Anthropology. *Phenomenology*, 2007, vol. 2, no Part 1, p. 284, This conclusion of Loparic seems to be taken from the following excerpt present in *Being and Time*: "Although up till now we have seen no possibility of a more radical approach to the existential analytic, yet, if we have regard for the preceding discussion of the ontological meaning of everydayness, a difficult consideration comes to light. Have we indeed brought the whole of *Dasein*, as regards its authentically Being-a-whole, into the fore-having of our existential analysis? It may be that a formulation of the question as related to Dasein's totality, possesses a genuinely unequivocal character ontologically. It may be that as regards Being-towards-the-end the question itself may even have found its answer. *But death is only the 'end' of Dasein; and, taken formally, it is just one of the ends by which Dasein's totality is closed round. The other 'end', however, is the 'beginning', the 'birth'. Only that entity which is 'between' birth and death presents the whole which we have been seeking. Accordingly the orientation of our analytic has so far remained 'one-sided', in spite of all its tendencies towards a consideration of existent Being-a-whole and in spite of the genuineness with which*

In this sense, Sloterdijk starts to touch upon these questions in *Infinite Mobilization* when he claims that "What was previously considered to be existential philosophy becomes transformed into a cosmology of the individual – each birth is a chance for a world to sprout up"[193]. As we will see, Sloterdijk will build a theoretical framework to address such questions only later, when he definitively abandons critical theory. Until then, Sloterdijk seems to loosely mention the necessity of addressing the theme of birth by reviewing Heidegger's philosophy.

> Meanwhile, it seems, the gun smoke over the philosophical battlefield has cleared. After the wound that was Heidegger, the time has come to also perceive the matter that is Heidegger. If it is taken up again, it already pushes beyond the formulation in which the master from the Black Forest left it. I hope we have left no doubt about the direction in which the "question of being," once newly set in motion, strives: towards a theory of birth, a phenomenology of the coming-into-the-world – a new Maieutic, an onto-topology, an onto-kinetics, an onto-politics.[194]

Although in *Infinite Mobilization* there is a move from critical theory to the question of human existence by addressing the problem of coming-into-the-world, it is only later in *Weltfremdheit* that Sloterdijk will take the question of anthropogenesis more directly. This question is asked by addressing the *anthropos* as the being that is not thrown in the world, but the being that inevitably exists in the world *as* an ontological movement. As Sloterdijk claims in one of the opening passages of *Weltfremdheit*: "If the subject of these studies is described as anthropological, that is only correct under one restriction. The men are not the heroes of history, but the forces of rise and fall of the world in which the men happen"[195]

These forces will manifest ontically in various ways, as we will see later in other developments made by Sloterdijk. Birth, death, biological evolution, formation of political communities, and the attempt of a monastic retreat from society are all ontic phenomena that can be taken ontokinetically, as ways of understanding the ontological implications of the movements from retraction and appearance of

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authentic and inauthentic Being-towards-death have been explicated. Dasein has been our theme only in the way in which it exists 'facing forward', as it were, leaving 'behind it' all that has been." Heidegger, M. *Being and Time*, p. 424-425. (our italics)

[193] Sloterdijk, P. *Infinite Mobilization*, p. x

[194] ibid, p. 78.

[195] *Wird das Interesse dieser Studien als ein anthropologisches beschrieben, so ist dies nur mit einer Einschränkung korrekt. Nicht die Menschen sind die Helden der Geschichte, sondern die Rhythmen und Gewalten des Weltaufgangs und -untergangs, in denen Menschen vorkommen*. Sloterdijk, P. *Weltfremdheit*, p.13. (our translation)

the world as such. Nevertheless, in this work, we will give more attention to the process of anthropogenesis, as we analyze both the *human phylogenesis* (the birth of a species which we call humans) as a technically mediated process and the ontological meaning of *Dasein*.[196] [197]

Sloterdijk argues in *Weltfremheit* that the human is a creature that "comes from the inside"[198], meaning, first of all, very concretely, that it comes from the womb, indeed that it enters the world as the outside in exiting a prior, protective interior that is the uterus. Before "being-in-the-world", human beings exist as "being-in-the-mother"[199] and the human condition cannot be truly understood, therefore, without considering it a "uterodicy"[200]. We might characterize this as an interpretation of the existential meaning of the condition of "coming-into-the-world" as a "coming-from-the-womb", which is exactly the goal of the project he will develop on a grand scale in his *Spheres* trilogy, more prominently in *Bubbles*.

Most generally, Sloterdijk understands the human as a being fundamentally characterized in its Being as a "being-in" (*In-sein*) that originates as a "being-in-the-womb" and attempts to reinstall this intrauterine condition postnatally in the outside world through the projective creation of artificial interiors - collectively constituting what we traditionally refer to as "cultures" - functioning as extrauterine protections. This process of building a womb after birth is both a symbolic and a technical affair through which humans project the smaller inner spaces from which they originate, first of all, the womb but in a general sense, all microspheric

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[196] This argument will be fully detailed in chapter 4.

[197] As we will see in chapter 4, one of the greatest challenges of the present work is dealing with the tension provoked when Sloterdijk simultaneously departs *both* from the findings of positive sciences *and* Heidegger's fundamental ontology. This tension gives to Sloterdijk's texts on the one hand great insights but on the other hand a great ambiguity. For instance, he often criticizes Heidegger for an aversion of the latter to all kind of anthropology, but when Sloterdijk is talking about his approach as an *onto-anthropology*, we are never sure if he is dealing with *Dasein or* humans. Although we recognize that a hybridization of the ontical and the ontological seems to be *contentwise interesting*, *it could be methodologically problematic*. The following excerpt can be used to illustrate our concern: "Two aspects are of interest in the formulation 'coming-to-the-world': on the one hand, it accommodates the horizontal movement of existence with an expression that indicates both the fall and the exodus. On the other hand, with this formulation Heidegger's resistance to every sort of anthropology can be marked off and dealt with from the heart of the matter. With the help of this formulation, we can, without fear, abbreviate the human fact—the discovery that human beings stand 'in the clearing'—and define those who exist as beings who relocate, who do not escape their own respective extension. These beings, which foundered as animals and from the beginning were culturally and technologically conditioned, live as coming to the world, are world-forming and 'historical,' because they follow a pull into that which is further, a pull which, for its part, stems from far away, from a naturally and technologically historical distance, which they themselves cannot understand without further aid and perhaps not at all." Sloterdijk, P. *Not Saved*, p. 23.

[198] Sloterdijk, P. *Weltfremdheit*, p. 191

[199] ibid, p. 64

[200] ibid, p. 190

environments such as a house or village, onto the larger outside world in the form of macro-spheres such as a city or a nation-state. As such, it can be described as a process of spatial "metaphorics", the projection or "carrying-over" of smaller and familiar interiors onto the uncanny exterior, in both a symbolic-linguistic and constructive-technical sense.

Sloterdijk claims that human beings are "inner world beings" (*Innerweltwesen*) that do not exist, as Heidegger suggested, as "nakedly" standing-out-into-the-world as the transcendental clearing of Being (*Lichtung des Seins*). They permanently reside in concrete, utero-mimetic and technically equipped environments that mediate between "inside" and "outside" and, as such, condition the clearing which Heidegger conceived of as the irreducible, unconditional condition of possibility of their existing Being (as *Dasein*). As Sloterdijk contends in *Weltfremdheit*:

> Although the physical and psychic life of humans presupposes that it abandons the womb behind it, existence is at the same time directed towards finding and preserving a 'being-in', and thus a womb-relation towards an embracing-surrounding, also in the waking state[201].

The ongoing creation of ever more elaborate and encompassing artificial, womb-like interiors or envelopes, and the fact that throughout their evolution and history human collectives have, therefore, constantly relocated into changing environments, uniquely distinguishes humans from all other animals as creatures of "resettlement" (*Umsiedlung*), condemned to the "ontological adventure" of being-there within the movement of coming-into-the-world[202]. The radical historical anthropology that Sloterdijk envisions, based on this insight, considers humans as deeply structural "element-changers" whose being-in-the-world, therefore, is struck with a permanent and insurmountable ambiguity[203].

Near the end of *Weltfremdheit*, Sloterdijk introduces a concept that will become crucial in later works for his radical historical understanding of the *anthropos* and the process of anthropogenesis: the concept of "luxury" (*Luxus*) - also referred to as "pampering" (*Verwöhnung*). This concept, which finds echoes in Arnold

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[201] *Obwohl das physische und psychische Leben der Menschen zur Voraussetzung hat, daß es den Schoß hinter sich verliert, ist die Existenz zugleich darauf gerichtet, auch im Wachzustand ein In-Sein, somit ein Schoß verhältnis zu einen Umgreifenden zu finden und zu behalten*. ibid, p. 65. (our translation)
[202] ibid, p. 84
[203] ibid, p. 198

Gehlen's philosophical anthropology[204] means a condition of comfort and abundance, of which Sloterdijk argues that it is the key driver of hominisation or, in other words, forms the quintessential explanation for the ontological exceptionality of the human-animal. He explains humanity's openness for what Heidegger called the clearing or "unconcealment" of Being (*aletheia*) as the outcome of a long evolutionary process of "luxuriation", by which humans mutually protect, pamper and safeguard one another in collectively constructed and sustained incubators (*Brutkasten*) - a term derived from Dieter Claessens[205].

The permanently maintained condition of luxury and distance vis-à-vis external nature has produced humans as beings in which the Being of beings can "light up", rendering it possible for beings to manifest themselves *as* beings. These two phenomena - luxuriation and distancing - explain the gradual metamorphosis within the evolving human species from animal wakefulness to a human world-openness[206]. What we usually call "cultures" are, Sloterdijk argues, the late consequence of thousands of years of such progressive luxuriation and distancing from nature[207]. As we will see later, these two processes are not only symbolically but also eminently technologically induced and supported.

Another work that clearly indicates a change in Sloterdijk's thinking regarding technology is *Im selben Boot* (1994). In it, he looks at humanity's political evolution from an anthropological perspective and starts from the assumption that politics has always been a matter of people adhering to "fantasies of unity", arguing that political history, therefore, is the history of "self-fulfilling ideas'' and "operative fictions". In the creation and perpetuation of such fictions, media technologies play an increasingly crucial role. The first, or original, stage of politics is called paleopolitics by Sloterdijk and is understood as "the reproduction of humans through humans"[208]. It appears when our ancestors started to distance and insulate themselves from "ancient nature" in what Charles Darwin called "hordes" through the use of "distance technologies" such as palisades, fireplaces, torches, and all kinds of tools and weapons. These first human collectives represent "social islands". They can also be understood as "ensouled spheres" lifted out from the

[204] This relationship will be further developed in chapter 5.
[205] Claessens, D. *Das Konkrete und das Abstrakte: Soziologische Skizzen zur Anthropologie*.
[206] Sloterdijk, P. *Weltfremdheit*, p. 334
[207] ibid, p. 335
[208] Sloterdijk, P. *Im selben Boot*, p. 17.

environment through an invisible "distance-ring" protecting their inhabitants from external selection pressures—thereby producing a naturally improbable being that prevents conflict from outside and luxuriates internally. It is in such spheres that proto-humans start to breed themselves through technically and symbolically enabled luxuriation, slowly developing larger brains and transforming their paws into hands capable of ever more sophisticated operations. Thus, Sloterdijk understands *homo sapiens* as the result of a "revolutionary breeding of anti-naturalness in nature" via a "horde-internal incubator-evolution"—characterizing the process of anthropogenesis as a successful history of luxuriant evolution[209].

The second stage of politics, which emerges with the arrival of the so-called "advanced civilizations" (*Hochkulturen*) and their theological and metaphysical worldviews, is interpreted by Sloterdijk as the reproduction of the goals of paleopolitics on a larger plane (that of cities and empires), i.e., as the art of "belonging together at large"[210]. It is here that politics in the classic sense of *politeia* enters the stage, and what this entails anthropologically and anthropotechnically is the reshaping of the familial herd animal *homo sapiens* into a *zoon politikon* equipped to exist in the extensive "social uterus", as thematized by Adolf Portmann[211]. Consequently, the city-state as a social uterus is understood through an assemblage of educational anthropotechnics, which Plato, in his *Politeia*, called *paideia*[212]. This societal reproduction mechanism, which Sloterdijk characterizes here as a "shepherd's craft"[213] (*Hirtenkunst*) anticipates the remarks made in his controversial lecture *Rules for the Human Park*, as we will see later. The age of advanced civilizations is also the age of class structures dividing collectives into lords and servants, the former elevating themselves via privileged literary "technologies of the self" while subjecting and instrumentalizing the latter through "technologies of power"—both theorized explicitly by Foucault. Thus, the luxuriation within the upper classes to an unprecedented level gives rise to exceptional individuals but also causes immiseration and massification in the lower classes[214]. The third stage of politics emerges

[209] ibid, p.19-20.
[210] ibid, p. 27.
[211] Portmann, A. *A Zoologist Looks at Humankind*.
[212] Sloterdijk, P. *Im selben Boot*, p. 32-33.
[213] ibid, p. 37.
[214] ibid, p. 42-45.

when the size of human groupings grows exponentially with industrialization[215], globalization, and the collapse of classic metaphysical orientations.

This third stage, hyper-politics—appropriate for the age of planetary techno-industrialism - is still largely in its beginning and resisted by collectives persevering in traditional, local political arrangements such as the nation-state[216]. Humanity currently experiences the "format stress" that accompanies every expansion of spheres, which, for Sloterdijk, forms the critical dynamic of human evolution and history as "planetarisation stress"[217]. The major task our planetarising species is confronted with - as it endangers the very conditions of its survival on the planet as its ultimate life support system—is to transform itself from the careless and destructive mass of "last men," as theorized by Nietzsche, constituting the current "monster-international of end users"[218] with its entropic, ego-centered and short-term consumerist lifestyles[219].

3.5 Transition II

Taking all the developments in Chapter 3 into account, we have seen how drastically the concept of technology changed Sloterdijk's thinking. Beginning from a framework highly influenced by critical theory in the *Critique of Cynical Reason*, technology is not as centrally present as it will be later. Two arguments were explored to make sense of this change. Firstly, in *Infinite Mobilization*, we saw how technology can be understood ontologically, which is related to a critique of the modernity project as a mobilization of the real. Secondly, we have shown how the question of the *coming-into-the-world* present in *Weltfremdheit* needs to engage closely with philosophical anthropology, in the sense that the existential character of the *Dasein* is fundamentally anchored in the understanding of human

[215] It is interesting to notice that later, Sloterdijk will connect more clearly the relation between modernity with the diverse forms of self-domestication through routines of practice in *You Must Change Your Life*. "To understand why the Modern Age transpired as the era of technology and simultaneously anthropological self-explanation one must note the fact that the main sociohistorical, or rather lifestyle-historical, event of this epoch was the transformation of ' societies ' into practising associations, stress-driven mobilization groups and integral training camps - spanning all their differentiated subsystems." Sloterdijk, P. *You Must Change Your Life*, p. 337.
[216] ibid, p. 57.
[217] ibid, p. 53.
[218] ibid, p. 59.
[219] As we will see later, this question will be further developed in chapter 6.

evolution as a long-range technological endeavor, as also thematized in *Im selben Boot*.

However, the current development triggers some questions, which will structure the following steps. Firstly, how will Sloterdijk delve into these new perspectives? Especially in Chapters 4 and 5, we will observe that he embraces an approach to ontological matters heavily influenced by empirical sciences like anthropology, psychology, and biology. This methodology is primarily due to his belief in the deep interconnectedness of these fields, making it impossible to separate ontology from empirical discoveries, contrary to Heidegger's aspirations in *Being and Time*[220]. As we will also see, this methodology implies for Sloterdijk a necessity to describe his developments as "fantastic reconstructions", as he neither addresses himself as concerned with the scientific pretensions of his discourse nor with an "exegetic" approach towards Heidegger's writings—or any other author.

Secondly, what is the significance of exploring technology through Sloterdijk's *oeuvre*? Throughout this work, Sloterdijk's theoretical development presupposes an orientation axis by which (dis)continuities can be analyzed. Our hope is that central writings by Sloterdijk, such as *Critique of Cynical Reason*, *Im selben Boot*, the *Spheres* trilogy, and his renowned text *Rules for the Human Park*, are better understood from this viewpoint. Although only some of his books are analyzed more carefully here, we aim to provide the reader with an enriched interpretative lens of Sloterdijk's thinking.

Thirdly, if we conclude that this exploration is central to Sloterdijk's philosophical project, what is the relationship between the concept of coming-into-the-world and technology, given the latter's central role in the present work? This interconnectedness forms one of the central pillars of this thesis. While coming-into-the-world is an interpretative anchor for Sloterdijk's work, examining all its facets is beyond the scope of this thesis. We will primarily focus on technology as a mode of *Dasein*'s motility and spatiality. Through a deep dive into Sloterdijk's treatment of technology, we will approach how the concepts of existence and life intersect when we juxtapose the "entry into the clearing"—the process through which a world can manifest as such – and the human's biological life. To analyze this problematic question, we will now move to the question of anthropotechnics in Chapter 4.

[220] Heidegger, M. *Being and time,* p. 87 .

4
Anthropotechnics

> *It is neither our mistake nor our merit to live in an age in which the apocalypse of the human is a daily fact.* [221]

As we have already explored in Chapter 2, it is reasonable to argue that (especially nowadays) our *human condition* is indeed a *technological condition*. As we will explore in this chapter, we live in an era where the question "What does it mean to call ourselves humans?" is directly triggered by our technological development. The *coming-into-the-world* through technical mediation did not only occur with the breaking of the environmental cage into a world by the first hominids with the use of hunting tools[222], but it is still happening today, when we characterize ourselves as a geological force or through most recent biotechnological discoveries. The quote that opened this chapter[223] suggests this diagnosis is indeed one of the most crucial of our time. Briefly, such an interrogation becomes visible in the following formulation: Can we continue using the concept of "human" in the current era? Furthermore, can these humans, thrown into the technological age under the shadow of their end, still *dwell* in the world?

It would not be possible to enumerate exhaustively the various forms of "collapses of humanity" drawn on the horizon, whether by climate scientists or by science fiction. We will focus here only on a few key concerns, selecting from the multitude of potential narratives and analyses available to illustrate the current "possibilities of the collapse of the human endeavor through technological means."

The first "threat" is based on the possible extinction of various forms of life, including the *homo sapiens*, due to the loss of the minimum boundary conditions for the maintenance of the so-called biosphere. From the publication of Rachel Carson's *Silent Spring* in 1962 to the discussions about the most appropriate term to describe our present geological era (be it the Anthropocene, Capitalocene,

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[221] Sloterdijk, P. *Not Saved: Essays after Heidegger.* p. 105.
[222] As we will see in this chapter, this is not a matter of letting paleoanthropology define "a scientific history about humanity", but to deeply question it philosophically.
[223] As Sloterdijk highlights, his quote is a paraphrase from the following excerpt "It is neither our fault nor our merit if we lived in a time when torture was a daily fact." Sartre, J-P. *"What Is Literature?" and Other Essays*, p. 178.

Thermocene, Eurocene, Plantationocene, or Chthulucene)[224], the so-called climate question has posed challenges to the concept of nature as a backdrop for the history of the human being, the latter often conceived as the actor and author of the theater of the world. The "question of ecological collapse" can be understood as a decisive turning point in the theme of the habitability of the world because, for the first time in history, the conditions for maintaining life on Earth are linked inexorably to the agency of a collective of humans and their techno-scientific constructs. Using Buckminster Fuller's metaphor, adopted by Sloterdijk[225], the question of the Anthropocene would have a determining implication on the concept of history because, from the moment the planet is understood as a spaceship without an instruction manual, geological history and human history would necessarily be intertwined[226].

However, if the problems mentioned above are taken as valid, it is certainly not clear how their consequent new philosophical questions can be placed alongside problems already present in the philosophical tradition. For instance, how can we reconcile the recognition of a human collective as a "planetary agent" comparable to a geological force with polymorphic narratives that point to a collapse of the notions of subject, human, and individual? There is a paradox here because it does not seem plausible to sustain the diagnosis of a species as a geological force without relying on categories such as responsibility, autonomy, and action to point ways out of the ecological crisis. Is it possible to think beyond the pair “nature-culture” and humanism without emptying fundamental notions of ethics and political philosophy? Would it be our task to reinvent these concepts?

Another front that challenges us ever more directly is the techno-prosthetic modifications in the biological domain of individuals. With the aid of ambitious techno-scientific projects, the transhumanist promise of transposing the body beyond its limitations and ailments makes the relationship between technology and human beings increasingly ubiquitous and, consequently, their ethical-political dilemmas more urgent. Besides the vertiginous inertial power of human enhancement technologies, our current incapacity to care about the seriousness of such questions

[224] A discussion of different terms to characterize ecological catastrophe can be found in both Bonneuil and Fressoz (2013) and Haraway (2016)
[225] Sloterdijk, P. T*he Anthropocene - A Stage in the Process on the Margins of the Earth's History?* In *What happened in the 20th century?* , p. 11.
[226] The connection between human and geological history in the context of the Anthropocene is further developed in: Chakrabarty, D. (2009). The Climate of History: Four Theses. *Critical Inquiry*, *35*(2), 197–222.

causes even more astonishment, especially when we consider what is expressed as a possibility with the so-called NBICs[227], for example. Still, even when we are not convinced of the "realistic" character of such narratives, we can observe the "political" movements arising from them, such as in the Silicon Valley CEOs' discourses[228] or the following excerpt stated by the UK Transhumanist Party:

> All policies we advocate will as far as possible be evidence-based rather than ideology-based. Open sharing of information is paramount. Transhumanist UK champions science and technology, and exists to improve the human and societal condition through technological tools. We support policies to accelerate the creation and adoption of technologies that enhance the human condition, including but not limited to anti-ageing, biotechnology, artificial and augmented intelligence, and other augmentations of human capabilities.[229]

Directly related to the issue of transhumanism, developments in genetic engineering and the possibility of "editing" the human at a deep biological level are increasingly becoming part of our daily lives. The so-called CRISPR-Cas techniques, the manufacture of artificial organs, and preimplantation genetic diagnoses are just some of the procedures with an increasing likelihood of affecting everyone's reality in the future, whether those endowed with economic power to finance them or those indirectly affected, even when the latter are not aware of such developments. Even so, the search for the biological efficiency of humans shows no signs that it can be "stopped" for analysis, not even when some "new possibility" triggers a more heated debate in the media. The ongoing biotechnological race mobilizes not only the individuals involved and the large industrial complexes but also universities and other institutions, influenced by varied discourses, such as the need for funds for scientific research, sovereignty, and national development, the existence of potential profits, the search for the well-being of the population and the reduction of human suffering.

The fact is that the results of this powerful process concern how the human being is produced biologically, by factors that are increasingly more "explicit" than "implicit" if we consider the possibilities opened by genetic engineering. The question about "who is the human being" is transmuted into "what could a human being

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[227] They symbolize the interface between Nanotechnology, Biotechnology, Information Technologies and Cognitive Technologies. An initial discussion on the topic can be found in Wolbring (2008).
[228] This is very recognizable in books such as Kurzweil, R. *The Singularity is Near*.
[229] Available in: https://www.transhumanistparty.org.uk/.

be(come)", admitting all the tensions and intersections about the noun in question when we think of concepts such as transhumans, posthumans, inhumans, and cyborgs.

Facing the myriad of questions discussed before (transhumanism and the Anthropocene), it would not be reasonable—nor minimally feasible—to have the pretension to exhaust the narratives previously opened, considering a realistic expectation of the breadth of such work. The present chapter aims to explore the interface between philosophical anthropology and technology through the concept of anthropotechnics. The guiding intuition of the present chapter is thus defined as follows: the impasses of our time previously pointed out can be seen beyond the action of a neutral set of tools. Considering the relationship between humans and technology, anthropotechnics leads us to reformulate the relationship between dwelling and technology, as we characterize the process of anthropogenesis as being concomitant with the history of technology.

Observing the forms of self-production of the human being and the world, it is possible to characterize the technosphere as the *habitat* where *Dasein* exists and at an increasingly intense pace, produces itself and the structures of the world it inhabits. If theological-literary narratives once had the power to shape human behavior and the physical world, today, a technological mode of production is increasingly responsible for this. This work expects that the reconstruction of the concept of anthropotechnology from Sloterdijk's work can present itself as a relevant theoretical perspective for philosophical research on technology today if we remember the debate presented in Chapter 2 about the limits of the philosophy of technology. As we take a transcendental view of technology, the frontiers of what we call the philosophy of technology today will be turned into an *onto-anthropology*.

For such an investigation, we will proceed along the following path. After outlining the justification and objectives of the chapter, we will contextualize the concept of anthropotechnics within Sloterdijk’s work. We will then make an excursus on two central themes for our inquiry: the ontology of life developed by Heidegger in *Fundamental Concepts of Metaphysics - World, Finitude, Solitude* (1929) and the theory of evolution, with a focus on Paul Alsberg's paleoanthropological theory, present in *In Quest of Man - A Biological Approach to the Problem of Man's Place in Nature (*1970). Finally, based on these two different approaches, we will see how Sloterdijk effectively discusses in greater depth some of the aporias

presented in *Rules for the Human Park* (1999) and in an immediately subsequent, more densely argued text entitled *The Domestication of Being (*2000).

4.1
The discussion on anthropotechnics and their context

Having sketched out this background, we can begin to draw some comments on the *Rules*. Although Sloterdijk had already tested some of his hypotheses in 1997 in Basel, it was in 1999, at a conference at the castle of Elmau in Bavaria, that the polemic around anthropotechnics began.

The text begins with a reconstitution of how humanism was constituted by a literary mechanism in the history of the West, taking the Roman concept of *humanitas* as dependent on epistolary, philial media. It would be possible, according to Sloterdijk, to trace a direct relationship between the stabilization of the concept of 'humanity' and the textual constructions of the West, these being endowed with an inhibiting[230] potential or even semiotic-social cohesion. To follow the turning point of this narrative (the crisis of literary humanism), it would be necessary to locate the genesis of mass societies and their communicational mediation devices, such as radio and television, and follow how Western technopolitical development would be at the heart of this process of erosion.

However, the scenario in which the crisis of literary humanism and its inhibiting forces takes place would open a space for other "forms of domestication", candidates for the position once occupied by the humanist tradition. As we have failed in our civilizing task of containing the bestial and destructive forces of the human race, would it be possible to adopt recent biotechnological tools as a source of domestication? How does this reading relate to a eugenic procedure or even to a "biopolitical utopianism"[231] proposed by Valerian Muriaev and various

[230] It is also worth noting that the theme of inhibition/disinhibition is an apparent reference to some constructions operated in the *Fundamental Concepts of Metaphysics* (an interpretation of the appropriation of this concept will be presented later in the text). Such formulation is also developed by Sloterdijk in *Rage and Time*, when he characterizes the pair *Eros* and *Thymos* in his psychopolitical interpretation of the formation of the West.

[231] Sloterdijk discusses this thesis in detail in *In the Auto-operative Curved Space - New Human Beings between Anaesthesia and Biopolitics,* in *You Must Change Your Life* (2013). It is worth mentioning that Valerian Muriaev is pointed out by Sloterdijk as the first known user of the term *Anthropotechnics*, attributing this discussion to the Russian theorists of the 1920s. They were concerned with the technical-cultural formation of people capable of following the wishes of the Russian revolution.

theoreticians of authoritarian political movements? Let us take the following excerpt from *Rules for the Human Park* to interpret it intentionally in the above tone:

> It is the signature of the technological and anthropotechnological era that human beings become increasingly involved in the active or subjective side of selection, without having to be voluntarily thrust into the role of the selector. Additionally, one may observe that there is an unease in the power of choice; soon it will become an instance of opting for innocence when human beings explicitly refuse to exercise the power of selection that they have in fact managed to achieve. But as soon as powers of knowledge are positively developed in a field, human beings cut a poor figure if they—as in earlier times of incapacity—wish to allow a higher force, whether it be God or chance or something else, to act in their stead. Since mere refusals and dismissals generally fail in their sterility, in the future it will arguably be necessary to actively enter the game and formulate a code of anthropotechnics. Such a code would even retroactively transform the significance of classical humanism—since it would disclose and put in writing the fact that *humanitas* not only involves the friendship of human being with human being; it always implies as well—and with growing explicitness—that the human being represents the higher force for the human being.[232]

Reading the latter fragment in such a direction, it would be effortless to trace some eugenic and authoritarian allusions in Sloterdijk's discourse and to believe the narratives proposed by Thomas Assheuer in *Der Spiegel* and *Die Zeit*[233], written a couple of months after the Elmau conference. Yet, as Sloterdijk points out in a text entitled *Critical Theory Is Dead*[234], it would have been Habermas himself who was responsible for encouraging such a reading, motivated by the apparent taboo involved, if we recall the context of the discussion, its subject, and the dramatic novel of events that took place in the first half of the twentieth century in Germany. Although Habermas (known for his development of a communicative reason) has never directly addressed Sloterdijk for a public debate on the subject, the following excerpt, published a year later, shows a possible indirect response to Sloterdijk.

> Nor is there, to be sure, any lack of wild speculation. A handful of freaked-out intellectuals is busy reading the tea leaves of a naturalistic version of posthumanism, only to give, at what they suppose to be a time-wall, one more spin – "hypermodernity" against "hypermorality" – to the all-too-familiar motives of a very German ideology. Fortunately, the elitist dismissals of "the illusion of egalitarianism" and the discourse of justice still lack the power for large-scale infection. Self-styled Nietzscheans,

[232] Sloterdijk, P. *Not Saved – Essays after Heidegger*, p. 210-211.
[233] For more details on such a discussion in the German media one can consult: Marques (2002), Nennen (2003) and Sloterdijk, P. *Neither Sun nor Death: The Human-Park Speech and its Aftermath* in *Neither Sun Nor Death*, p. 45-136.
[234] *Die Kritische Theorie ist tot*, 1999 - Available at: https://homepage.univie.ac.at/henning.schluss/seminare/023bildung_und_genetik/texte/04sloterdijk_an_%20assheuer_u_Habermas.htm

> indulging in fantasies of the "battle between large-scale and small-scale man-breeders" as "the fundamental conflict of all future," and encouraging the "main cultural factions" to "exercise the power of selection which they have actually gained," have, so far, succeeded only in staging a media spectacle[235].

Retracting such an interpretation, Sloterdijk points out in an interview how he interprets the *Rules* polemic, in which he is not satisfied with explaining the imbroglio only by the taboo motivation:

> The dynamic of the taboo would have never been enough, by itself, to generate all the commotion that we experienced in the fall of 1999. In actual fact, two further sub-scandals were superimposed upon the affair, raising it a level. The first of these was the general debate on technology, a debate which had not yet taken place in Germany, at least not at the political level, although some things had been said behind closed doors; the second was the understanding that Critical Theory had fallen into decadence, which was proven by some of the leaked letters sent by Habermas to his assistants. In a single blow, we were obligated to admit that the debate on genetic technology in Germany had manifestly not been conducted at a level required by the subject itself – and this is so, notably, owing to historical blockages of which we are well aware. Under pressure, the cork flew from the bottle, and the genie of biotechnology was let out. In addition, the temporal proximity between the debate over the Human Park speech and the acceleration of the Human Genome Project brought about a strong objectivation of the problematic. German sensibilities set the tone, but only at the start; with time, objective discussion took the upper hand. The elements that I just mentioned obviously have such a degree of reality that they can no longer be repressed. The repression was abolished and replaced during the affair. For us, it was a way of catching up to state of the art on the international level. Out of a local misunderstanding something ultimately emerged that in France would be called a *debát national*. In our situation, this brought about a quantum leap in the culture of discussion.[236]

After clarifying the sensitivity of the theme and the positions adopted in the debate, we intend to analyze how Sloterdijk's discussion is not reduced to the polemic produced. Consequently, it is necessary to revisit the topics explored in *Rules for the Human Park*.

Returning to the theme of the failure of literary humanism, the relevant question for Sloterdijk does not seem to be the phenomenological description of these technical devices capable of domesticating the human of the twenty-first century—whether genetic engineering or *machine learning*—but rather, to illustrate how, at the core of humanism, the anthropotechnical thesis is inoculated: the possibility of

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[235] Habermas, J. *The future of human nature,* p. 22.
[236] Sloterdijk, P. *Neither Sun nor Death*. p. 86-90

making explicit how the human is the species forged by its self-domestication[237]. To exhibit the viability of this concept, Sloterdijk places himself in dialogue with Heidegger, Nietzsche and Plato to show how, within their texts, the anthropotechnical idea can take shape.

In *The Statesman*, Plato uses the metaphor of weaving to demonstrate that *polis* building depends on the necessity of combining human structures of different properties to stabilize the Greek socio-political space. According to Sloterdijk, there is a royal anthropotechnic already present in Platonic political thought. This presence is a fundamental influence in the later Latin concept of *humanitas,* since the statesman would possess the responsibility of overseeing the cultivation of qualities and structures that allow the simultaneous domestication and disinhibition of the inhabitants of the *polis*. Turning to Nietzsche, more specifically in the passage on "diminishing virtue" in *Thus Spoke Zarathustra*, Sloterdijk will seek elements to discuss how the inhibition provoked by the humanist tradition may have caused excessive anesthesia of human volition[238], placing Nietzsche as a necessary theoretician for the recovery of the self-formation (*Bildung*) through the affirmation of the will and the repair of the body as power.

However, Heidegger is the main interlocutor in the *Rules*. By identifying Heidegger's critique of humanism present in the *Letter On Humanism,* Sloterdijk takes his most important step towards formulating the concept of anthropotechnics[239]. By approaching the theme of humanism as a media theory—epistolar

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[237] About the metaphor of what a *Human Park* would mean, the following passage is quite illustrative: “With what has been discussed to this point, I hope to have explained in broad outline why the members of the species *Homo sapiens* as such always already represent products of domestication: biologically through neotenization, and culturally through their integration into self-generated symbolic orders. Owing to the synergy of these two aspects, historically developed cultures first and foremost amount to (relatively) closed survival units, in which individual cultures are kept as though in artificial enclosures, or incubators. This was the issue that was occasionally described metaphorically as the “human park.” ” Sloterdijk, P. *What Happened in the 20th Century?*, p. 28. Along chapter 4 and 5 we will deal with the aforementioned concepts.

[238] Such a theme is treated in a psychopolitical key in *Rage and Time* (2012).

[239] We emphasize here our non-commitment to a detailed interpretation of Heidegger's *letter On Humanism*, but only to raise some central points mobilized by Sloterdijk in *Rules*. Such a fact is mainly due to a methodological choice of the present text, explained as follows. Although the letter *On Humanism* is the text chosen by Sloterdijk to point out the ontological abyss signaled by Heidegger between the human and the animal, as signaled by Richardson (1974), there is a natural "gravitational field" of other themes significant for the so-called late Heidegger, such as language, technique, dwelling, the relationship between being and thinking, besides the late Heidegger's relationship with *Being and Time*. Therefore, we believe that the analysis of the thematic of the ontology of life present in *The Fundamental Concepts of Metaphysics* would be an adequate place to explore both the ontological difference between human and animal, and the reading operated by Sloterdijk of this imbroglio through the concept of anthropotechnics.

constructions that can “tame” the human being through its inhibition—Sloterdijk offers a new way of interpreting Heidegger's critique of humanism.

As Heidegger points out, the three forms of candidates for representatives of humanism in the first half of the twentieth century would have been Christianity, existentialism, and Marxism[240]. However, the three possibilities for understanding the human being are highlighted as non-questioning forms of the essence of *humanitas,* taking for granted a particular essence. Consequently, the history of metaphysics would be seen by Heidegger as concealing the question of the essence of the human under the name of humanism—from its Greco-Latin to the Christian and Enlightenment forms. On the other hand, Heidegger's thought since *Being and Time* can be seen as a way of narrating the idea of the human "against the grain" - not because of its necessary centrality, but due to the tradition's lack of radicality in asking such a question at the required depth. This idea would already be present in Heidegger's observation in *Being and Time—Dasein* cannot be explained in an ontic way, as an animal endowed with some additional property, whatever it might be (rationality, language, image, or similarity with its creator).

We can now separate Sloterdijk's interpretation of Heidegger into two parts. The first deals with Heidegger's supposed attempt to remain a humanist, because his philosophy after the turn (*Die Kehre*) would be characterized by an effort (among other themes) to listen to and use language differently, as if these meditations could tell us something about a "new and more radical humanism", based on a kind of domestication stemming from a radical existential exercise of listening to Being and serenity (*Gelassenheit*)—a stabilization of *humanitas* without the human at the center. Following this line of thought, Sloterdijk attributes to Heidegger's ontological cultivation of reality's gravity[241] in the face of the crisis of humanism, provided through anxiety, boredom, and meditation on our finitude. Such an *existential recharge,* present in Heidegger[242] would be the necessary counterpoint to the

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[240] Heidegger, M. *Letter on Humanism* in *Basic Writings*, p. 224-225. .

[241] We here refer to what Sloterdijk points out in the essay *Critique of the Extremist Reason* contained in *What Happened in the 20th Century?*. Sloterdijk diagnoses modernity as an anti-gravitation campaign through technological means against the harsh conditions of human existence, such as poverty and scarcity. As a reaction to this “anti-gratation tendency”, Heidegger’s thinking would be philosophically attuned to the aspects of gravity and heaviness of human existence. We will further explore it in section 5.5.3.

[242] Although we have not done it in a separate section of the present text, a more detailed text on Sloterdijk's reception of Heidegger's work would be required, due to the centrality of the latter for Sloterdijk's thought. As a starting point, the discussions presented in the following texts seem important: *The Cabinet of the Cynics* in *Critique of Cynical Reason,* the preface of *Nicht Gerettet,* in

process of Enlightenment, now promised and shared by the modern-scientific project of explicating *physis*.[243]

The second line of interpretation made by Sloterdijk focuses on how to deal with the ontological difference[244] distinguished by Heidegger between the human and the animal. Recalling the statement about the ontological abyss[245] present in the letter *On Humanism*, Sloterdijk identifies a constitutive internal difficulty present in Heidegger's philosophy in addressing the frontier between the existential and the biological. Attempting to overcome this difficulty, he asks how a new understanding could emerge by investigating the phenomenon of anthropogenesis as a process of technological self-domestication. Below is an excerpt in which Sloterdijk exposes the relation of this thesis with the *Rules:*

> I ought to underscore once again that my speech, as such, has nothing to do with any fantasies about so-called human breeding – from this angle, there is nothing to discover in my text other than the rather conventional thesis according to which homo sapiens' evolution has taken a specific biological path that opens onto a cultural being, that is, a being whose cultural condition – and this is the less conventional part of my thesis – is still stamped by the biological. This process has occurred in a rather spontaneous and essentially unconscious way; however, in the future, we will also have to reckon with conscious contributions to this process. The speech on the Human Park is essentially a scenic dialogue with Heidegger on the meaning of the clearing, with the collaboration of Nietzsche and Plato as studio guests. [...] My conviction is that both becoming-human in general and the opening of the clearing in particular have something to do with domestication, that is, with the domiciliation of the homo sapiens. As such, becoming human has been a spontaneous act of self-raising. This thesis shifts the perspective towards the biological constitution of the species, but also, as I said, further still toward the fact that this constitution is conditioned by the history of culture. What matters to me is the thesis according to which humans are creatures of a history of spoiling themselves [*Verwohnen*] and that, in this sense, they are the only ones who can be called "house pets". We need to reflect upon the type of domesticity that applies to *homo sapiens*.[246]

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addition to the text *The plunge and the turn - Heidegger's Thinking in motion* present in the same volume, as well as *Heidegger's Politics* and *Critique of the Extremist Reason* contained in *What Happened in the 20th Century?*

[243] We will further explore what *explicitation* means in section 5.5.1

[244] Although the theme of ontological difference is broad and central throughout Heidegger's work, (and usually addresses the difference between Being and beings) we will not undertake a detailed thematisation of that. Still, we will take only the difference posed between animals and humans at some points.

[245] Such ontological gap between animals and humans is present in the letter *On Humanism*, when Heidegger mentions the possibility of humans being closer to the essence of the divine than to the essence of animals. Sloterdijk quotes in *Rules* this passage, with an ironic characteristic of his writings, by characterizing that Heidegger as if possessing a "sword of fire, separates humans from animals". The metaphor of the sword of fire does not seem gratuitous, as it refers to the biblical episode in which after humans are expelled from paradise, an angel bearing such a sword is placed in *Eden* to guard the tree of life.

[246] Sloterdijk, Peter. *Neither Sun nor Death*. p. 86-90

After all the considerations made on the concept of anthropotechnics, we encounter a myriad of questions, both in the public debate on the subject (as noted earlier) and on the conceptual side of the development proposed by Sloterdijk. Although the indications are promising, we hypothesize that there is no conceptual coherence and rigor compatible with the density of the discussion presented in the text *Rules for the Human Park*.[247] This conceptual imbroglio can be formulated in the following way: admitting Heidegger's developments (both in *Being and Time* and in the letter *On Humanism*), it is reasonably dangerous to "blindly embrace empiricism" and accede to biological and anthropological theories to obtain a result of ontological character on the so-called "history of the clearing". However, there is an apparent need to pursue the investigation of the boundaries between the biological and the ek-static, if we observe the continuous advances of biotechnologies and the "ontological naivety" present in discussions on human nature held by highly prestigious scientists such as Richard Dawkins or Marvin Minsky[248], as will become evident in the following restitutions. Against this background, to advance the question of the technological *coming-into-the world*, we will proceed with a careful reading of the text *The Domestication of Being*, using some developments of Heidegger and Paul Alsberg on the phenomenon of life.

4.2
Fundamental ontology and the phenomenon of life in Heidegger

To delve into how Sloterdijk conducts his formulations, it will be necessary to first elaborate on how Heidegger unfolds from the existential analytic, important considerations to investigate the phenomenon of life. This debate will lead us to central topics such as the essence of animality, the difference between organs and instruments, and the concept of ontological difference between humans and animals. Then, we will begin with some considerations on the relationship between

[247] This hypothesis is mainly rooted in the fact that the essay *Rules for the Human Park* is only a preparation for what is further developed in *The Domestication of Being*. In the former, Sloterdijk addresses only in a loose way his critique on Heidegger, not explaining how this self-domestication mechanism is related to the *coming-into-the-world* thesis already presented in our chapter 3.

[248] The two authors mentioned serve as examples of how some scientific advances recently insist on trying to "unravel the enigma of human nature" in a rather hasty manner. For example, Marvin Minsky was one of the pioneers of the development of artificial intelligence (in its phase known as symbolic), hoping that the development of a "silicon brain" could finally reveal the precise functioning of the human mind, a thesis still adopted in many recent AI developments such as the *Large Language Models* (LLMs). On the other hand, Richard Dawkins became popular with books such as *The Selfish Gene (1976)*, which could imply a "reduction" of humans to their biological condition.

philosophy and science outlined by Heidegger, subsequently focusing on the ontology of life present in *The Fundamental Concepts of Metaphysics*.

After a long and complex introduction to the fundamental issues of existential analytics, Heidegger points out at the beginning of division 1 of Being and Time (more precisely in §10) a concern that can be seen as "negative." Such considerations have as a background the requirement to draw differences, notably between ontology and the sciences concerned with investigating human phenomenon. The latter, by drawing conclusions about their specific domains, inspire various "conclusions about human nature." First of all, it is essential to stress Heidegger's concern about not offering normative pretensions in these domains (psychology, biology, and anthropology), as if ontology could be a “validation” of these scientific findings. However, Heidegger also rejects the possibility of scientific findings being "directly exported" into ontology, without the slightest refinement or analysis. More problematic still, it could be if the sciences take the questions of ontology as self-evident, arriving at conclusions lacking reflection on their investigative assumptions. In the excerpt below, such questions are explained by Heidegger:

> In suggesting that anthropology, psychology, and biology all fail to give an unequivocal and ontologically adequate answer to the question about the *kind of Being* that belongs to those entities which ourselves are, we are not passing judgment on the positive work of these disciplines. We must always bear in mind, however, that these ontological foundations can never be disclosed by subsequent hypotheses derived from empirical material, but that they are always "there" already, even when that empirical material simply gets collected. If positive research fails to see these foundations and holds them to be self-evident, this by no means proves that they are not basic or that they are not problematic in a more radical sense than any thesis of positive science can never be.[249]

Going further, one way of thinking about the relationship between ontology and the sciences would be, for example, the way in which concepts are created. In this case, ontology would be responsible for a process of fabrication, in which the resulting concepts would be operated upon by the sciences. Heidegger excludes the former possibility, taking the following indication[250]: It would not be feasible to wait from ontology for the results of its investigations to then begin scientific research, or even the opposite (to wait for the sciences for their results to elaborate a "scientifically informed ontology"). Admitting the theoretical character of the

[249] Heidegger, M. *Being and time,* p. 87 .
[250] Such a consideration is made in §45b of *The Fundamental Concepts of Metaphysics*

sciences as an existential possibility of *Dasein*[251], the cooperation and coexistence of knowledge would be possible not through previously coordinated action but through attentive listening between the areas of investigation. Although it is not within our scope to develop this last indication left by Heidegger, it is worth highlighting his insistence on a partnership between positive sciences and ontology. The latter, without science, would be increasingly caught in the trap of "empty idealism," and science without ontology would remain tied to its results without having a critical analysis of its presuppositions.

After sketching the relationship between ontology and science, we can now investigate Heidegger's ontology of life. As already stressed by other authors[252], Heidegger also recognises in *Being and Time* a possibility to develop, in the future, an ontology of life from the ground of existential analytics. By briefly considering the relationship between life and *Dasein*, there is a previous remark about the non-reducibility of *Dasein* to a "mere living being", or of life as something that operates on the same mode as present-at-hand (*Vorhandenheit*) or ready-at-hand (*Zuhandenheit*).

> The ontology of life is exercised following the path of a privative interpretation; it determines what must be, so that a thing can only be life. Life is neither simply a given thing nor *Dasein*. *Dasein*, in turn, cannot be determined ontologically, starting from the fact of life - (indeterminate from the ontological point of view) to which another thing is added.[253]

Once the complexity of the phenomenon of life was delimited, the moment for a deeper investigation of the theme opened only in 1929. *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude* can be separated into three distinct parts. In the first moment, between paragraphs 1 and 15, Heidegger explores the essence of philosophy and another important characterization for the rest of the investigation: the concept of metaphysics. In the second section, the role of the disposedness (*Befindlichkeit*) and its relation to metaphysics is thematized, with most of the focus on boredom (in its three forms), since it is a fundamental mood (*Grundstimmung*) of our philosophizing. Finally, in the third section, Heidegger delves into

[251] This issue is widely explored in Fragozo, F. A. S. O conceito existencial de ciência:Heidegger e a circularidade do conhecimento. Ekstasis: Revista de Hermenêutica e Fenomenologia, [S. l.], v. 1, n. 2, p. 73–89, 2012.
[252] Such a passage from *Being and Time is* frequently cited in the literature devoted to the interface between Heidegger and biology, such as Calarco (2008).
[253] Heidegger, M. *Being and Time*, p. 76.

how we might approach the question of the concept of "world" in a more detailed way, leading us to the question of the ontology of life. But what exactly would is the connection between these two concepts—world and ontology of life?

In §42 of this book, Heidegger sets out the three possibilities envisioned for exploring the concept of the world, answering the previous question. *An initial attempt*[254] could be made by investigating the history of the concept of "world", which he had already probed at another time, notably in *The Metaphysical Foundations of Logic* (1928)[255]. However, such a task is incomplete because it only reaches an external target of the question. Asking about the history of the concept of "world", or even about its etymological origin, opens up a collection of facts about how the phenomenon has already been interpreted within the history of metaphysics, but it would not necessarily reveal something more essential. It becomes necessary to take the investigation in other directions.[256]

The *next attempt* is made in *Being and Time*, in which Heidegger chose to indicate *how* the world challenges us in an immediate and everyday way - through the worldhood of the world. Among the different possibilities for interrogating the concept of the world, one mentioned by Heidegger seems crucial, notably its ambiguous character, demonstrated in the following passage: "*That which is so close and intelligible to us in our everyday dealings is actually and fundamentally remote and unintelligible to us*."[257] This ambiguity is fundamental, as it opens up the question of the world *as a problem*, as a philosophical investigation. By taking the most trivial and immediate aspects in a phenomenological approach, it is possible to reveal how, in our daily dealings with beings, we encounter them in their various possibilities of existence without being aware of the absolute lack of intelligibility regarding how the world influences us, and how we affect it.

If we want to grasp what Heidegger means by "lack of intelligibility," it is useful to examine how the natural sciences usually deal with the term "world." According to the mathematical and experimental approach used in these sciences, the “world” is seen as a collection of objects external to us, existing in space and time,

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[254] Heidegger, M. *The Metaphysical Foundations of Logic,* p. 170-185.
[255] Although *The Metaphysical Foundations of Logic* (1928) was conceived after *Being and Time* (1927), Heidegger kept the approach of the former as the first for methodological reasons.
[256] Heidegger, M. *The fundamental concepts of metaphysics - world, finitude, solitude.* p.176-177.
[257] ibid, p.177.

that can be measured[258]. This approach is suitable for scientific progress because it enables the development of theories that explain phenomena and predict how they will behave. In this context, the primary goal is quantitative validation; hence, the definition of the world is *predetermined to fit the scientific method of investigation*. The focus here *is not on understanding the world itself* but on *crafting a definition of the world that aligns with the predetermined objectives of science*. Thus, even as new discoveries about the structure of matter or the dimensions of space-time are made, the fundamental concept of the world remains unchanged. In this way, groundbreaking scientific theories (such as general relativity or quantum mechanics) are still settled in the same concept of world founded by modern metaphysics. This perspective suggests that science cannot be seen as a "discoverer" of the world but rather as a way to systematically unveil phenomena so they can be measured and understood within the constraints of already established scientific parameters..[259] As a result, by distancing himself from the ways in which the metaphysical tradition[260] conceived the concept of world in §14 of *Being and Time* and in *The Essence of the Ground,* Heidegger makes it possible to *rethink* the idea of world from some very original perspectives throughout *Being and Time*, such as historicity and temporality.[261]

The *third attempt to* address such a question would finally be employed by Heidegger in *Fundamental Concepts of Metaphysics*, consisting basically of a comparative approach from the distinction: “man is world-former, the animal is poor in world, and the stone is worldless”. The investigation proceeds in the direction of "bringing out the worldhood character of the world for the first time as a possible subject of a fundamental problem of metaphysics,"[262] without, however, excluding other possibilities of approaching the question: "What is world?"[263] The previous observation is significant, because this research, as Heidegger defines it, has no

[258] As Heidegger explores in *Being and Time*, this is just one of the possible meanings to the word “world”. Heidegger, M. *Being and Time*, p. 93.
[259] Of course, this debate can be far more complex than presented here, if we consider the different approaches possible in the philosophy of science.
[260] Here we include the scientific view discussed earlier within the "metaphysical tradition, because our understanding is that by addressing the concept of world proposed by Descartes in §19 of *Being and Time*, Heidegger is pointing to the opacity of modern science's concept of world originally and radically, pointing precisely to the moment of its "most decisive development".
[261] We will not enter into this debate in detail here. Still, the concept of *world* in Heidegger's work would require a much more extensive analysis, and may ultimately guide an entire reading of Heidegger's work in its different moments.
[262] Heidegger, Martin. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. 178.
[263] This observation is made in §42 of the same book cited above.

claim to "methodological exclusivity". Starting from the initial premise - man is world-forming, the animal is poor in world, and the stone is worldless - the intention is not to define the human as an animal endowed with a particular capacity (such as rationality or language), because such a definition necessarily creates a hierarchical ordering, thus evading the initial question. The postulated ontological difference seems to be precisely the way to investigate the difference between world (*Welt*) and environment (*Umwelt*), because the phenomenon of life is something shared by a series of beings distinct from each other, leading us to the question: "Can we affirm that the other living beings have a world just like we (humans) do?". We take this position because of the following impasse: *there are no a priori guarantees about the "immediate sharing" with the other beings characterized as living, of the way in which Dasein itself (in this case, the being that conducts the investigation) accesses the phenomena in question (the world).*[264] Therefore, as Heidegger points out in §43, the most significant difficulty of examining the phenomenon of "life" is not the subject itself but finding a method capable of leading us to properly formulate the questions[265]. As we have already seen, when natural sciences investigate fundamental phenomena (such as *world* and *life*), most of the time, they already carry a lot of unexamined presuppositions. An ontological investigation into what life means should not only inquire into its underlying presuppositions but also keep the questions open in their pure philosophical potentiality.

Entering more specifically into the dialogue established by Heidegger with biology, it is clear that he was discontented with the two main currents of the time, nominally mechanism and vitalism. As Brentari points out[266], the mechanism of the late nineteenth and early twentieth centuries was represented mainly by Ernst Haeckel, an embryologist and defender of Darwin's theses, and its composition with the vision of La Mettrie, notably popularized in the book *L'Homme Machine* (1748). Haeckel's mechanism could be seen as a materialist explanation of biological

[264] Such a conclusion was drawn on the basis of reading §43 and §44 of the book referred to above.
[265] About this issue, we can recap the following excerpt: "Since, in metaphysics, man is experienced and thought of as the rational animal, animality is then interpreted against the measuring rod of rationality, as what is irrational and without reason, i.e., interpreted against human intellectuality as what is instinctual. In this way, in metaphysics and in its scientific repercussions, the mystery of the living being goes unheeded, for living beings are neither exposed to the assault of chemistry or are transferred to the field of "psychology". Both presume to seek the riddle of life. They will never find it; not only because every science adheres only to the penultimate and must presuppose the ultimate as the first, *but also because the riddle of life will never be found where the mystery of the living being has already been abandoned*." Heidegger, M. *Parmenides*, p. 160. (our italics)
[266] Brentari, C. *Jacob von Uexküll - The discovery of the Umwelt between Biosemiotics and Theoretical Biology*, p. 47-54.

systems, excluded from any finalist vision. Through the hypothesis of the continuous adaptation of organisms, using mechanisms of natural selection and physicochemical analyses of organic structures, it would be possible to describe the current state of a biological system as the sum of these aforementioned material conditions. Contrary to Haeckel's mechanism, the biologist Hans Driesch, a supporter of vitalism, did not favor the reducibility of living beings to material mechanisms, mainly due to the problem of how the materialist hypothesis dealt with the self-organization of organisms, for example, the mechanisms of reproduction and self-regulation. Observing the historical-philosophical context of the time, it is possible to relate the "metaphysical foundations" of vitalism and its authors mostly close to Bergson's philosophy[267] and German idealism, such as Schopenhauer[268]. To distance himself from both vitalism and mechanism, Heidegger needs a biological theory sufficiently different from both poles, a task he achieved by engaging with Jacob von Uexküll's work. Consequently, we will now expose some of its central concepts. It is also worth noting that the recovery of some concepts sketched by von Uexküll will later enable us to make a more profound analysis of the theme of anthropotechnics.

Jacob von Uexküll is undoubtedly one of the most influential biologists of the 20th century. His considerations on the phenomenon of life have instigated reflections in Heidegger, Cassirer, Merleau-Ponty, Lacan, Canguilhem, Deleuze, Guattari and Sloterdijk[269]. However, given the extent of his work—beginning with writings more focused on morphology and physiology and ending in more theoretical discussions on the philosophy of biology, erecting a whole field of knowledge today known as *Biosemiotics*[270]—we will focus mainly on formulations about the environment/world connection and the functional circle. As we will see, these are the concepts most directly appropriated by Heidegger in *The Fundamental Concepts of Metaphysics* and by Sloterdijk at various moments in his work[271].

Since his first writings, as Brentari points out[272], von Uexküll's main concern seems to have been redefining the conceptual framework related to the interaction

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[267] Cf. Bergson, H. *Creative Evolution*.
[268] Cf. Schopenhauer, *On the Will in Nature*.
[269] Such a fact is pointed out by Brentari (2015).
[270] For a greater understanding of the field, it is helpful to look at the work developed by the *International Society for Biosemiotic Studies* - https://www.biosemiotics.org/
[271] An interesting example where Sloterdijk appropriates von Uexküll's concept of *Umwelt* is in *Atmosphere Politics* in Latour, Bruno. Weibel, Peter (Org.). *Making Things Public - Atmospheres of Democracy*, MIT Press, 2005. This text will be explored in section 6.2 of the present work.
[272] Brentari, C. *Jacob von Uexküll - The discovery of the Umwelt between Biosemiotics and Theoretical Biology.*

between organisms and their surroundings, until that moment largely dominated by a so-called psychologist approach. Von Uexküll's aim was to articulate the modes of perception, cognition, and interaction of animals with the phenomena that surround them, relying on a set of references expurgated from "anthropomorphization" or analogies permeated by assumptions of human psychology, as discussions on intelligence, feelings, motivation and memory of animals. Such an argument can be understood if we take as a starting point the decisive influence of Kant on von Uexküll's perspective, especially the *Critique of the Faculty of Judgment* and the *Critique of Pure Reason,* the latter being referred to in the following excerpts of *Theoretical Biology*.

> Kant writes "Space is merely the form of all appearances of the outward senses, i.e. the subjective conditioning of sensibility, by which alone intuition of the outside world is possible for us". The biologist would express this in the following way, - "The existence of space is dependent on the inner organisation of the subject's personality, which clothes the sense-qualities in spatial form.[273]
> The task of biology consists of expanding in two directions the results of Kant's investigations: 1) by considering the part played by our body, and especially by our sense-organs and central nervous system, and 2) by studying the relations of other subjects (animals) to objects"[274]

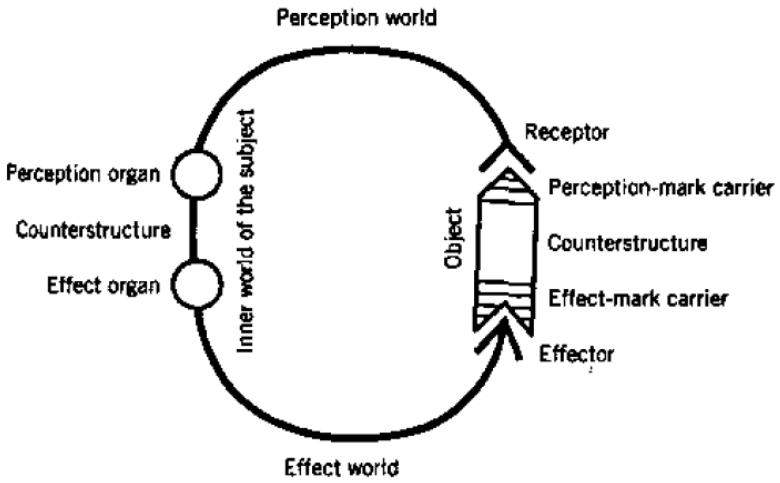
Illustrated through the Kantian conception of space, von Uexküll's project is to take the apparatus of the theory of knowledge present in Kant's first critique to the question of animal perception and investigate the interaction of internal structures that enable the formation of an environment with the sensory stimuli received. Consequently, the concept of environment ceases to be something entirely external and absolute and becomes specific to each species, given the morphological and physiological variation present in animals and the different stimuli capable of being captured by various receptor structures. But what would differentiate such a conception from a deterministic and mechanical view of organisms? For von Uexküll, the self-organizing dynamics of animals and the phenomena capable of being perceived are co-constituted and could only be understood if we resort to a regulatory hypothesis known as the construction plan (*Bauplan*). Such a plan would be precisely derived from the whole Kantian argumentation present in the second part of the *Critique of the Faculty of Judgement*, specifically in the Critique of the

[273] von Uexküll, Jacob. *Theoretical Biology*, 1926. p. 1.
[274] ibid, p. xv.

Teleological Judgement. Some authors, such as Buchanan[275], identify the different nuances of how von Uexküll deals with the question of Kantian teleology during his period of intellectual production. However, for the present analysis, we will adopt the diagnosis in which such a path serves as a way to avoid the mechanism/vitalism opposition, as long as the studies of the functioning of organisms should be made *as if it were possible* to identify a unifying principle or purpose in them.

Another central notion in von Uexküll's thought is that of the functional circle, as he graphically organizes his biological system model. To explain this concept, the diagram presented in von Uexküll[276] seems suitable, in addition to the synthesis performed by Brentari[277].

Figure 1 – Functional Cycle



Fonte: Von Uexküll (2010)

The "inner world" of animals is composed of perceptive organs, operative organs, the environment, and the whole internal structure (or counter-structure), capable of coordinating the parts according to a regulating principle. The perceptive organs can receive some external stimulus, processed and organized by the internal structure. The set of stimuli capable of being received in some way and their interactions are determined as the perceptive world (*Merkwelt*), just as the set of

[275] Buchanan B. *Onto-Ethologies The Animal Environments of Uexküll, Heidegger, Merleau-Ponty, and Deleuze,* p. 65-114.
[276] von Uexküll, J. *Theoretical Biology*, p. 49.
[277] Brentari, C. *Jacob von Uexküll - The discovery of the Umwelt between Biosemiotics and Theoretical Biology*, p. 97-104.

operations and effects capable of being produced by the organisms is determined as the effect world (*Wirkungswelt*). Together, the perceptual world and the effect world from the surrounding world or environment (*Umwelt*), are capable of interacting with objects through structures called carriers of perceptive marks and carriers of effect marks. The latter would be all the manifested characteristics capable of providing the animal with possibilities of action, for example, on the surface on which an animal moves. The carriers of perceptive marks, on the other hand, would be the manifested characteristics capable of generating stimuli perceived by the animals, for instance, the temperature of a prey[278].

Jakob von Uexküll's distinction between the perceptive and effective aspects of animals' interactions with their environment is crucial for understanding animal behavior. He posits that we cannot definitively claim animals perceive *objects as objects in the human sense*. Therefore, he divides their interaction with the world into two separate realms within what he calls the functional circle: the perceptive world, related to how animals sense their surroundings, and the effective world, concerning how they act upon these perceptions. This division suggests that while animals engage with their environment, it is not clear if they do so with a cognitive or representational understanding, as noted by Brentari[279]. Instead, their interactions are based on instinctual or learned behaviors without necessarily attributing meaning or representation to the objects of their actions. Von Uexküll's concept of the functional circle provides a universal framework that applies across different species, acknowledging that each species creates its own unique environmental field based on its sensory and motor capabilities. This results in a species-specific world (an environment), shaped by the organism's physiological structure, which, in turn, dictates how it perceives and interacts with its environment. The diversity of these environments underscores a significant *epistemological difference*: each species experiences and understands its world in a way that is inherently tied to its biological makeup. The field of biosemiotics, which was built upon von Uexküll's work, explores how living beings perceive and create meaning in their environments. It involves comparing the morphological characteristics that shape an organism's perception with its modes of interaction with the world, aiming to reconstruct the unique environmental niches each species inhabits.

[278] ibid, p. 99-100.
[279] ibid, p. 101.

Having elucidated the previous concepts, one way to approach Heidegger's development on the theme of animality is the "phenomenological reading" of von Uexküll's ideas, although his ultimate goal is the explicitness of the concept of openness and world formation, achieved through his comparative analysis between *Dasein*, animals, and things, as we highlighted before. It is essential to underline the constitutive incompleteness of the present recovery, given the wide variety of possible approaches to the ontology of life present in the 1929 seminar, in addition to its analytical and conceptual complexity. However, our aim is the partial recovery of a given theoretical framework, capable of *later enabling us to make a more profound analysis of the theme of anthropotechnics*.

Starting from the assumption that the phenomenon of life is manifested in organisms[280], we can address the difference between machines and organisms. According to the mechanistic perspective, it would be possible to deduce the latter in an analogical way from the former. The analogy resides in the following formulation—organisms could be conceived as a complex set of distinct functional parts, the organs, just as a machine can be designed as a set of instruments—leading to the characterization of the organism as a complex set of instruments. Following this indication, as Heidegger points out in §51a, this comparison can only be accepted if a more detailed analysis of the organs points to the possibility of reducing the organ to the instrument[281]. Therefore, a more detailed analysis of the similarities and differences between the instrument and the organs is necessary, as Heidegger suggests in the following passage:

> Certainly-yet the question remains whether an organ is the same as an instrument; whether, in spite of all appeal to the facts, it is not precisely the zoologist who is falling victim to verbal confusion here; whether this unclarified and undifferentiated

[280] We will see below how the notion of organism, although important, is not sufficient to account for the phenomenon of life.

[281] Heidegger seems to signal two paths that corroborate such semantic intertwining. The first would be the vision attributed to Wilhelm Roux (1850 - 1924), an embryologist of the time who, according to Brentari (2015), influenced many other biologists, was responsible for applying embryological analysis to investigate and corroborate Darwin's theses, and who, according to Heidegger, would have defined the organism as a complex set of instruments. However, despite the characterisation pointed out by Heidegger, Brentani (2015) does not identify in Roux an adherence to mechanicism, but rather to a holistic definition of organism. The second reason for the conceptual overlap between instruments and organs would have etymological roots, as the German term *organ* would be related to the term *(ὄργανον - organon*) translated among other possibilities as instrument. Moreover, the correlated term to ὄργανον would be (ἔργον - *ergon*), translated into German as *werk* - work, giving rise, for example, to the word *werkzeug* - tool.

> understanding of organ and instrument is really so irrelevant to the investigation of the facts or whether in the last analysis it is quite decisive?[282]

The analyses made by Reis[283] and Torres[284] are more complete compared to what is done here—and it is worth consulting them—but, aiming at our already explained objectives, we will extract a synthesis from the results found by the researches cited above and from Heidegger's text itself. We will concentrate first on the analysis of the instruments, then on the categorization of the organs and the organism, and finally, provide a more precise definition of the ontological difference between humans and animals.

The instrument (*das Zeug*) is an entity corresponding to *Dasein*'s mode of ready-to-hand (*Zuhandenheit*), a theme covered extensively by Heidegger mainly in §15 of *Being and Time*, a fundamental part of the existential analytic. The mode of being of instruments reveals itself as something prior to the mode of being of the present-at-hand (*Vorhandenheit*), because the most direct experience of *Dasein* in the world corresponds to its dealing with the objects used to orient itself and accomplishing its most immediate tasks. The instruments are always already involved in a context or a given meaningfulness (Bedeutsamkeit), requiring the simultaneous formation of a whole referential network of an instrument in relation to other instruments in their encounter with *Dasein*. The instruments are always understood firstly as inserted in this "network of references," not requiring the previous "categorization" of the entities with their potential properties and characteristics. As Heidegger observes:

> Equipment – in accord to its equipmentality – always is in terms of [*aus*] its belonging to other equipment: ink-stand, pen, ink, paper, blotting-pad, table, lamp, furniture, windows, doors, room. These "things" never show themselves proximally as they are for themselves, so as to add up to a sum of *realia* to fill up a room. What we encounter as closest to us (though not as something taken as a theme) is the room; and we encounter it not as something "between four walls" in a geometrical spatial sense, but as equipment for residing. Out of this "arrangement" emerges and it is in

[282] Heidegger, Martin. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. 216. An explanatory note: We are adopting the translation of *Zeug* as instrument or equipment, because in our analysis they can be used interchangeably.

[283] Reis, R. R. dos. Lagarteando: problemas ontológicos e semânticos na hermenêutica da natureza viva de Heidegger. *Revista Filosofia Unisinos. São Leopoldo*, 2010a, vol. 11, no 3, p. 225-243.
Reis, R. R. dos. Heidegger: a vida como possibilidade e mistério. *Revista de Filosofia Aurora*, 2012, vol. 24, no 35, p. 481-507.
Reis, R. R. dos. Natureza e normatividade na hermenêutica ontológica de Martin Heidegger-parte I. *Natureza humana*, 2010b, vol. 12, no 1, p. 1-46

[284] Torres, J. C. B. Sobre a distinção heideggeriana entre órgão e instrumento e a revolução biológica contemporânea. *Revista Filosófica de Coimbra*, 2010, vol. 19, no 38.

> this way any individual item of equipment shows itself. Before it does so, a totality of equipment has already been discovered.[285]

This simultaneous and referential network becomes possible because the instrument is always defined in use *for* something, *in view of* something, corresponding to an "absorbed intentionality" according to Dreyfus[286], the latter being prior to the "representational intentionality" involved in the mode of present-at-hand. Dreyfus further points out, on account of this form of intentionality of the ready-to-hand, two fundamental features in the way in which *Dasein* always already encounters them: 1) The way of understanding the instrument is not through theoretical reflection, but through *manipulation*, and it is up to the use of the instrument to already always unveil its meaning; 2) Although the instrument can only be known through its use, this use always makes it "transparent", since *circumspection* (*Umsicht*), the characteristic perception of the ready-to-hand is not "settled" around the properties of the entity in question but structured around the "for-which" that the instrument is placed.

As the instrument is always defined in its use *for* something, and its meaning cannot be given to a set of properties offered by the "theoretical attitude", in §52 of the *Fundamental Concepts of Metaphysics,* Heidegger attributes to the essence of the instrument the being *in the service of*, to the extent that, when used, the instrument would always open a *possibility for*, materializing a conceived goal. Consequently, instruments are built with a view to an end, responding to an external plan of use, or even as the fruit of a design and manufacturing process. For this reason, there is a double relationship between “being ready” (*fertig*) (concluded in its manufacturing process) and the instrument, as Heidegger points out:

> The finished production of the equipment makes it ready in a twofold sense. The equipment is ready insofar as it is finished. But this finished state consists precisely in its being ready. And 'ready' here also implies that it has a certain readiness [*Fertigkeit*] which makes it suitable and usable for something. It is precisely the fact that it has been made ready in this particular way which gives the finished equipment its readiness, its suitability for writing (the pen, in this case).[287]

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[285] Heidegger, M. *Being and Time*, p. 97-98.
[286] Dreyfus, H. *Being-in-the-world: A Commentary on Heidegger's Being and Time, Division I*, p. 61-63.
[287] Heidegger, M. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. 220.

This character of readiness (*Fertigkeit*), however, should not be confused with capacity (*Fahigkeit*) insofar as opening up the *possibility of* the instrument depends on the user and the context, unlike organs. This distinction between capacity and readiness can be explored to trace the characteristics of organs in contrast to instruments. Similar to instruments, organs would have their essence in making things possible; by fulfilling a given function, they make a particular task or initial goal achievable—the eye makes vision possible just as the pen makes writing possible. However, as Torres[288] observes, Heidegger's analysis begins to trace the differences between instruments and organs when we ask ourselves about the *relation of* the instrument and the organ *with those who request and make use of* this making possible. As we stressed before, the use of instruments depends on a given context—this discovery of the meaningful network and its possibilities of use is dependent on the request of the *Dasein*; that is, the character of readiness of the instruments makes them dependent on *moving towards* of *Dasein,* characterizing an *external reference.* By contrast, organs are always linked to the "organismic" complex, being themselves a form of expression of a specific capacity of the organism. In this sense, there is something here called *internal reference* because the organ is always already "installed" in the organism; it is dependent on it. As Heidegger points out:

> How are we to understand this relationship between the organ and the capacity? One thing is clear: we cannot say that the organ has capacities, but must say that the *capacity has organs*. Earlier on we said that equipment is of a certain readiness, while the organ has a capacity. Now we can see that it is more appropriate to put it the other way round: in being made ready, the equipment has acquired a particular readiness for something and possesses this readiness. The organ, on the other hand, is in possession of a capacity. It is the capacity which possesses here rather than the organ.[289]

The thesis that instruments possess readiness for something and that the organism's capacities possess organs is undoubtedly astonishing and counterintuitive at first sight. Still, we can use a case from biology (exemplified by Heidegger himself) to illustrate such a thesis, as well as to help us proceed toward the next problem—the relation between organisms and organs. To give materiality to such a proposition, it is not surprising that Heidegger chose a central case to the discussions of

[288] Torres, J. C. B. *Sobre a distinção heideggeriana entre órgão e instrumento e a revolução biológica contemporânea*, p. 321-322.
[289] Heidegger, M. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. 221-222.

that time, the so-called problem of protoplasm. As Brentari[290] identifies, this problem was essential to the debate between the so-called vitalists and mechanicists. It placed the two views in confrontation, and Heidegger opted for a third explanatory path, clearly dependent on the concepts of von Uexküll[291]. The problem of protoplasm refers to how unicellular organisms (amoebas) possessed the capacity to create internal organs and dissolve them to the extent that they possessed a necessity, for instance, the emergence of a digestive and excretory tract when an external food source was identified. The mechanicists had difficulty explaining such a phenomenon since it seemed complex, to say the least, to account for a self-organizing arrangement by resorting only to the organism's internal set of physical-chemical reactions. This struggle led the vitalists to postulate an extra-material force or principle capable of giving cohesion to the phenomenon studied.

However, von Uexküll uses a "Kantian" perspective and adopts the previously mentioned construction plan, enabling us to conceptualize the organism *as if* it possesses a purpose or finality (*telos*). For instance, in order for the amoeba to be fully adjusted to its environment with its present organism, the emergence of specific internal structures becomes necessary, leading us to consider that the amoeba acts as if it possesses a finality (adjusts itself to deal with its environment in the best possible way). The solution found by Heidegger is the *inversion of the relation between capacities and organs*, explaining, in the case of the amoeba, the emergence of the digestive and excretory tract as related to the capacity in question, which is *prior* to the dynamically created organs. However, to reject von Uexküll's teleological perspective and simultaneously maintain the concept of the functional circle requires a new way of articulating how capacities come about in the organism, as well as their consequences for the relationship between animals and their environment.

Making a helpful comparison, Heidegger begins §54 by differentiating complex instruments (or even machines) from organisms in terms of their mode of operation—where instruments and their relationship with parts are tied (implicitly or explicitly) to a plan of construction or prescription, carried out beforehand and put

[290] Brentari, C. *Jacob von Uexküll - The discovery of the Umwelt between Biosemiotics and Theoretical Biology* p. 65-74.
[291] This particular case is a counter-argument to the thesis that Heidegger is alien to his epoch's debate on empirical sciences. A deeper debate about it can be found in Brentari, C. *Jacob von Uexküll - The discovery of the Umwelt between Biosemiotics and Theoretical Biology*, p. 198-204.

into operation in the process of making. In contrast, organisms have self-organizing functions (self-production, self-regulation, and self-renewal). Moreover, the self-regulatory function plays a fundamental role in the articulation of capacities, because:

> Something which is capable on the other hand is not subject to such a prescription but is intrinsically regulative and regulates itself. In a certain sense, it drives itself toward its own capability for […]. This self-driving and being driven toward its wherefore is only possible in that which is capable inasmuch as capability is in general instinctually driven [*triebhaft*]. Capacity [*Fähigkeit*] is only to be found where there is a drive [*Trieb*].[292]

Drives (*Triebe*) cannot be understood in the mode of being of ready-to-hand, where the *enabling to* is always already submitted to a specific form of use. The drives and their correlated conditions of enabling are dependent on each other—that is, there is drive only through a capacity for anticipation of the relation with external stimuli, and there is only capacity because the very "*possibilities of*" are already set in motion by a drive. However, Heidegger rejects the thesis that the organism's essence is defined by a set of drives, because in the organism's intentional relationship with the surrounding phenomena, the organism is already rendered capable (*befähigt*) to its environment, and this capability is responsible for organizing the pulsional structure and for setting the animal in motion. As Heidegger puts it:

> Being organized means being capable. And that implies that the animal's being is potentiality, namely the potentiality to articulate itself into capacities, i.e., into those instinctual and subservient ways of remaining proper to itself. These capacities in turn possess the possibility of allowing certain organs to arise from them. This capability [*Befähigtsein*] articulating itself into capacities creating organs characterizes the organism as such.[293]

Given this initial explanation, it is possible to turn our attention to the concept of the disinhibiting ring (*Enthemmungsring*), considering its centrality to the present discussion. We will follow Agamben's interpretation[294], which suggests that the concept of disinhibiting ring has a more significant influence from von Uexküll's texts than Heidegger himself admits throughout *The Fundamental Concepts of*

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[292] Heidegger, M. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. .228
[293] ibid, p. 234-235.
[294] Agamben, G. *The Open: Man and Animal*. p. 49-77.

Metaphysics[295]. The first aspect to stress about the disinhibiting ring is the distance from a mechanical structure of the "stimulus-response" type, as the system formed by capacity, drive and capability gives a "non-passive" form to organisms. The notion of *circle* in Heidegger's concept seems to indicate a similar interpretation to von Uexküll's, except that Heidegger does not formulate the problem in Kantian but in phenomenological terms. Thus, the main point seems to be the impossibility given a *priori* for certain stimuli to be perceived by organisms, since these have sensory possibilities delimited by their capacities, that is, their intentional relations with other beings would already shape the very perceptual possibilities at stake. Up to this point, there are no significant distinctions between animals and humans, but, as we shall see, the mode of relation (or the intentional structure) of animals is different. There is no possibility for animals to apprehend *beings as beings*, given that the opening of animals to their environment is dependent upon the inhibition and disinhibition of impulses. In other terms, there is a clear relation between human possibility of making sense of its surroundings through a meaningful totality of interconnected references, which is something different from an absorption by a set of organic drives. As Heidegger states:

> [...] captivation is at the same time an absorption in the totality of interacting instinctual drives. The specific selfhood of the animal (taking 'self' here in a purely formal sense) is its being-proper-to-itself, being proper [*Eigentum*] in all its driven activity. The animal is always driven in a certain way in this activity. That is why its being taken never involves an attending to beings, not even to itself as such. But this drivenness does not occur within a self-enclosed capsule; on the contrary, on the grounds of the being taken of the instinctual drives themselves it is always related to something else. Absorbed as it is into this drivenness, the animal nevertheless always pursues its instinctual activity in being open to that for which it is open.[296]

This mode of relationship with the environment, called captivation[297] (*Benommenheit*), would have two main direct implications for the characterisation

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[295] ibid, p. 51.
[296] Heidegger, M. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. 259.
[297] The term *Benommenheit* is undoubtedly challenging to translate in the current context, and most of the time the option for *disturbance* or *captivation* has been adopted. The various ways of saying something like *behavior* in German seem to be at the heart of this impasse. An essential piece of information is that *Benommenheit* is used in medical literature as *dizziness* or *drowsiness.* If we take this indication in a broader perspective, it seems that Heidegger is referring to a mode of *access and interaction* to other beings that differs from the way of *Dasein*. The synthesis of the intentional structure by the possible disinhibition rings of other living things seems to provide a mode of orientation in the environment by which *Dasein* cannot access "as such" by a positivist descriptive route, either through morphological or ethological studies. In that sense, phenomenology and hermeneutics play an essential role in this debate.

termed by Heidegger as “poverty in world”. The first is related to behaving (*sich benehmen*) in relation to their surroundings, in the sense that animals are absorbed (*eingenommen*) by their disinhibiting ring. With that, following Agamben's reading[298], captivation would be an *opening in a non-disconcealment*[299], putting us towards an impossibility of exporting to other living beings the elements structured by Heidegger in *Being and Time*, such as being-in-the-world and care (*Sorge*), thus concluding that, on an ontological level, animals would not have access to what Heidegger defines in the existential analytic as *world* (*Welt)*, but to an *environment* (*Umwelt*). This ontological (and no longer epistemological, as posited by von Uexküll) difference can be summarized as follows:

> For it is not simply a question of a qualitative otherness of the animal world as compared with the human world, and especially not a question of quantitative distinctions in range, depth, and breadth - not a question of whether or how the animal takes what is given to it in a different way, but rather of whether the animal can apprehend something as something, something as a being, at all. If it cannot, then the animal is separated from man by an abyss.[300]

After all the proposed reconstruction, we come to the core of the element defined by Heidegger as abyss (*Abgrund*), and the constitutive ontological difference between humans and animals[301]. Even when observing the structural changes in Heidegger's thought throughout the 1930s, the concept of abyss seems to remain in later moments, such as in the aforementioned letter *On Humanism,* and in the 1942/1943 course entitled *Parmenides*, where Heidegger mentions that "not even the lark sees the open"[302]. However, our goal is not to analyze how these concepts

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[298] It is worthwhile pointing out that we are not exploring Agamben 's main argument present in *The Open* - the question of the anthropological machine. Nevertheless, we have found Agamben's reading of Heidegger's 1929 text quite instructive.

[299] About this complex question, Agamben states that: “The animal is at once open and not open—or, better, it is neither one nor the other: it is *open in a nondisconcealment* that, on the one hand, captivates and dislocates it in its disinhibitor with unmatched vehemence, and, on the other, does not in any way disconceal as a being that thing that holds it so taken and absorbed. [...] On the one hand, captivation is a more spellbinding and intense openness than any kind of human knowledge; on the other, insofar as it is not capable of disconcealing its own disinhibitor, it is closed in a total opacity”. Agamben, G. *The Open*, p. 59.

[300] Heidegger, M. *The fundamental concepts of metaphysics - world, finitude, solitude,* p. 264.

[301] Our attempt in offering a detailed description about the debate which was happening around Heidegger in the 1920’s is to show that his conceptualization of the ontological difference between humans and animals has not “fallen from the sky”. Against Sloterdijk interpretation, indeed it is possible to see that Heidegger had not a repulse towards positive sciences, but he was quite involved in its debates and was directly influenced by them.

[302] Heidegger, M. *Parmenides*, p.160. Faced with the exposed conceptualisation, a second step could be taken in the sense of investigating Heidegger's problem concerning animality, having the theme received significant attention in literature for the most varied intentions and approaches. To put some

change over time in Heidegger's work but to use a "weak" version of the ontological difference built by Heidegger to subsequently analyze the phenomenon of anthropogenesis proposed by Sloterdijk.[303]

To obtain clarity on what would be a weak thesis, it is necessary to emphasize some aspects of the developments exposed above, the first one concerning the character of incompleteness. As we can observe throughout the examples discussed by Heidegger in *The Fundamental Concepts of Metaphysics*, the conclusions reached are based on studies of living beings with morphological structures more distant from human beings, such as bees, worms, and lizards, leaving doubt about what findings could emerge from studies of mammals, for example. However, the most critical feature of incompleteness would be the lack of analysis of the character of motility of life as a process and movement, thus requiring a study on the aspects of temporality and historicity of these observed phenomena, as pointed out in §61c of GA 29/30. This leads us to conclude that the results obtained by Heidegger should be taken as *partial* since his investigation of the phenomenon of life was limited to the concept of the organism, and he recognized the need for the development of considerations about motility. Another important aspect of Heidegger's research is its *relational* aspect, insofar as all discoveries about animals are drawn from the following assumptions 1) animals have intentional relations with their environment; 2) these intentional relations are analyzed based on those that can be described, without, however, generating extrapolations (how to access these other intentional relations *as such*), and, on the other hand, without anthropomorphizing the beings evaluated. Corroborating the relational character and the incompleteness of his findings, Heidegger highlights the need for methodological care in this research, precisely in order not to fall into the traps of vitalism or mechanism.

> Every animal as animal has a specific set of relationships to its sources of nourishment, its prey, its enemies, its sexual mates, and so on. These relationships, which are infinitely difficult for us to grasp and require a high degree of cautious methodological foresight on our part, have a peculiar fundamental character of their own,

possible indications, we have Derrida in *The Animal therefore I Am,* Agamben in *The Open*, Róbson Ramos dos Reis in several articles (some of them listed in the references of the present work), Valentim in *Extramundanidade e Sobrenatureza*, Sforza in *Sein und Leben* and Buchanan in *Onto-Ethologies*.

[303] It is worth noting that the signaling of the limitations of Heidegger's ontology of life and its consequent "deflated thesis" adopted here are initially developed by Róbson Ramos dos Reis, as in Reis (2010a), for example.

> the metaphysical significance of which has never properly been perceived or understood before."[304]

Another important observation is about the "poverty" character of the animals' world, which may, in a hasty reading, suggest something referring to inferiority, lack, or subordination. As pointed out in the following excerpt, though:

> In truth, also here (in the animal kingdom) we are accustomed to speak of superior and inferior animals. However, it is a fundamental mistake to think that amoebas and infusoria are more imperfect animals than animals like elephants and monkeys. Each and every animal, each and every animal species is as full as another. From all of the above it becomes evident that, from the outset, the discourse of world poverty and world formation should not be taken in a derogatory order of values."[305]

Finally, by being concerned with leaving the question open in its pure philosophical potency, Heidegger seems to *refuse to* offer *Dasein* a constitution of world characterized by greater completeness or richness concerning the animals, thus maintaining the character of *mystery and complexity of the phenomenon of life* and of what we indicate as world.

> This question now leads us toward the distinction we tried to express by talking of man's world-forming and the animal's poverty in world, a poverty which, roughly put, is nonetheless a kind of wealth. The difficulty of the problem lies in the fact that in our questioning we always and inevitably interpret the poverty in world and the peculiar encirclement proper to the animal in such a way that we end up talking as if that which the animal relates to and the manner in which it does so were some being, and as if the relation involved were an ontological relation that is manifest to the animal. The fact that this is not the case forces us to claim that the essence of life can become accessible only if we consider it in a deconstructive [*abbauenden*] fashion. But this does not mean that life represents something inferior or some kind of lower level in comparison with human Dasein. *On the contrary, life is a domain which possesses a wealth of openness with which the human world may have nothing to compare*."[306]

This movement is fundamental for the present work, as it allows a return to the investigation of the problem of ontological difference, considering mainly the unresolved conflict between Heidegger and Darwinism[307].

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[304] Heidegger, M. *Fundamental concepts of metaphysics - world, finitude, solitude*, p. 198.
[305] ibid, p. 194.
[306] ibid, p. 255.
[307] Such a conflict is thematized in §61 of *The fundamental concepts of metaphysics* and will be later addressed in this chapter.

4.3
The theory of evolution and its impasses

As highlighted earlier, the ontology of life developed by Heidegger in the *Fundamental Concepts of Metaphysics* is characterized as an incomplete and relational procedure, given the lack of analysis of the processual character of the living being and the relationality imposed by the investigations based on the available intentional structures. As we shall see later, one of the indications used to interpret Sloterdijk's anthropotechnical thesis is to approximate it to the early explored "weak proposition" of the so-called ontological difference between the human and the animal[308]. At the same time, Sloterdijk makes an attempt to approximate the existential character of world formation and the theory of evolution. However, to carry out such an interpretation, it is necessary to highlight what is understood by the "theory of evolution" and the development proposed later by Paul Alsberg.

As authors of the history of science such as Magner[309] point out, the theoretical body commonly known as the "theory of evolution" is one of the significant developments in the so-called life sciences, composed of a complex set of hypotheses, experimental developments, and consequences that overflow the very boundaries of biology. Although Darwin's presentation of it in *The Origin of Species* is identified as the main landmark of the theory of evolution, it is not possible to reduce the latter to the former. Such a situation can be illustrated if we use schematically the conceptual framework proposed by Thomas Kuhn in *The Structure of Scientific Revolutions*, categorizing the theory of evolution as responsible for a true revolution in scientific investigations about the phenomenon of life, marked by a series of crises until the rise of a revolution and the stabilization of a new paradigm.

As signaled by Magner[310], before the developments proposed in the nineteenth century, the central interpretation of the morphological and ecological diversity found in nature was based on adherence to the biblical writings, which resulted in a hierarchy among living beings (with the human being the most perfect of them), along with a belief in the morphological invariance of living beings throughout

[308] Just to make our point clear, by “weak proposition” of the ontological difference between humans and animals, we want to stress that Heidegger results are only partial and build upon a relational interpretation, in which some limitations are also needed to be taken into account. This will be important because Sloterdijk’s concept of anthropotechnics can be interpreted as an attempt to continue this discussion triggered and left uncompleted by Heidegger.
[309] Magner, L. N. *A History of Life Sciences*, p. 299-368.
[310] idem.

natural history and, consequently, a fixed number of species. The Christian-Aristotelian cosmology began to get out of its normal state and, therefore, entered into crisis when some naturalists of the 17th century started to find intriguing empirical pieces of evidence, such as fossils of already extinct animals and similarities and differences between those fossils and the existing animals. This led to an interpretation of the alteration of species over time, regarding their morphological characteristics. Such facts also added to advances in studies on Earth's geological formation, introducing a new perspective on “how long” life has been present on Earth.

To accommodate the phenomena described above, thus creating a new explanatory theory, we can partially follow Mayr's proposal[311] and synthesize Darwin's evolutionary theory in four parts. The first concerns the concept of evolution and its contrast with the theoretical framework previously adopted. Darwin needed to abandon the hypothesis on the rigidity of species characteristics, admitting the possibility of their wide variation over time, with such variations being contingent on the environmental conditions in which the populations are inserted. It is important to emphasize that such a characteristic was already proposed by other theorists of the same period, such as Lamarck and Wallace. However, the most accepted hypothesis before Lamarck and Wallace was still focused on minor local variations, based on a stable and continuous biological structure, which was essential for compatibility with the teleological perspective on organisms.

The second component is perhaps one of the most controversial, yet it has high "explanatory power" for the observed phenomena—the common descendant hypothesis called branching. The following example illustrates this explanatory power. Let us imagine two population groups with similar general characteristics, but geographically isolated and submitted for an extended period to distinct environmental conditions. If we accept the changing nature of species over time, the common descendant hypothesis explains the morphological diversity between the two groups. However, the generalization of such a hypothesis would have consequences of making it impossible to indicate any "exclusivity" of the human being in biological terms, invoking what Freud called in *A General Introduction to Psychoanalysis* a second narcissistic wound for humanity. The dismantling of a

[311] Mayr, E. in *The Darwinian Heritage.* In order not to dwell too much on the theory of evolution itself, we have chosen to reconstruct Ernst Mayr's exposition in four parts, not five, thus synthesizing the last two parts of the original text.

hierarchical structure of living beings and the postulation of a new biological status for the human species would have real cultural consequences for the next century. Additionally, this new way of understanding the "distances" in biological terms between species has triggered a new way of thinking about the taxonomy of living beings, now on a genealogical basis and not simply by morphological similarities, as first postulated by Linnaeus in 1758.

The third component of the theory of evolution relates to the pace by which the alteration of populations occurs, also called gradualism. In a system founded on the permanence of species characteristics, the possible mechanism to explain the existence of different organisms in the past, as observed by the discovery of fossils, was dependent on the necessity of extinctions and creations, thus suggesting leaps of diversity. As Mayr points out, the hypotheses discussed before Darwin by biologists and geologists of the time were divided into three groups:

> (1) Extinct species are replaced by newly created ones that are more or less at the same level as those that they replace (Lyell 1830-1833).
> (2) Extinct species are replaced by new creations at a higher level of organization (progressivists, such as Buckland, Sedgwick, Hugh Miller, L. Agassiz).
> (3) New species originate through saltations of pre-existing species (E. Geoffrey Saint-Hilaire, Darwin in Patagonia, Galton, Goldschmidt).[312]

As can be observed, Darwin himself, during his expedition aboard the *Beagle*, adhered to the third group, gradually acquiring a vision over time more aligned with the gradualist hypothesis. Over time, the constant need of adaptation of the species to the environment ended up having as a consequence a greater adherence of gradualism to the theory of evolution as a whole.

The fourth part would be responsible for the unity of the others, considering the necessity to detail *how* the procedure of continuous adaptation was carried out. The mechanism called natural selection can be better understood as a composite of two stages, as Mayr formulates: "The first consists in the production of individuals genetically different from one another, while in the second the survival and reproductive success of these individuals is determined."[313] However, Mendel's genetic theory was not yet widespread during the formulation of *The Origin of Species*,

[312] Mayr, E. in *The Darwinian Heritage*, p. 203.
[313] Mayr, E. in *The Darwinian Heritage*, p. 209.

leaving Darwin with a hypothesis called "pangenesis"[314] to account for the mechanism of heredity. The incorporation of the Mendelian theory of genetics with the Darwinian mechanism of natural selection gave rise in the first half of the 20th century to the Modern Synthesis, responsible for the consolidation of a new scientific paradigm concerning the phenomenon of biological diversity.

With this brief recovery of the theory of evolution, we can delve into more specific debates related to potential impasses in issues such as human evolution. As we pointed out earlier, there is a missing link between Heidegger's ontology of life and Darwinian theory of evolution, since the former does not deeply develop a perspective on the "motility of life", and the former takes life phenomena as possibly reduced to the present-at-hand mode of being. In order to begin bridging this double-gap, if we look more carefully at human evolution, it seems helpful to understand the work of Paul Alsberg, from which we will draw the concept of the *liberation of the body*.

By positioning the human from a biological point of view, a paradox is created about the possibility of explaining the phenomenon we know as *civilisation*, since it would be necessary to understand all living beings on the same evolutionary principle, with the human being responsible for this singular phenomenon. A possible way to understand such an *aporia* would be to reinterpret the concept of technology and its relationship with the body and the theory of evolution.

One can observe evolution and its mechanisms of natural selection and adaptation to the environment in the morphology of animals, in their various potentialities to overcome adverse natural weather (such as coat, scale or feathers), as well as the needs imposed by relations with other living beings (such as talons, paws or beaks). However, humans are characterized precisely by the relative "absence" of such survival potentialities, a kind of nakedness and privation compensated by the ability to manipulate the environment through tools and techniques, as well-characterized by the myth of Prometheus, narrated by Hesiod in *Theogony* and *Work and Days*, Plato's *Protagoras* and Aeschylus' *Prometheus Bound*.

[314] Darwin's pangenesis theory aimed to explain sexual reproduction and trait inheritance through a mechanistic unified theory involving "gemmules". These organic particles, released by body organs and transported to reproductive cells via blood, were thought to have an affinity for specific body parts. Supposedly, they could replicate and, upon being transferred to offspring, would develop into various organism parts, embodying characteristics from both parents. Cf. Magner, L. *A History of the Life Sciences*, p. 371-373.

In the platonic discussion of the myth, Protagoras tells a story about how Prometheus and his brother Epimetheus were tasked by Zeus with distributing abilities among creatures. Epimetheus begins the task and mistakenly allocates all the qualities to other animals, leaving humans naked and unprotected. Realizing the mistake and feeling sorry for humans who were left vulnerable, Prometheus steals fire from the Olympus to equip humanity for survival. This act marks the beginning of humans' ability to cook food, warm themselves, forge metal, and engage in a wide range of cultural and technological activities that were previously beyond their reach. With this narrative, we can observe from a philosophical-anthropological perspective how technology is seen as a *consequence* of humans' lack of ability to survive in the natural environment. Human beings are then characterized as *deficient beings*, since technology is a fullfilment of an original absence. This interpretation of technology as a *consequence* implies a particular causality relation between the singular morphological constitution of humans and their capacity of transforming the natural world through the use of atifacts.

The path traced by Alsberg (and also by Sloterdijk, as we will see later) aims precisely at the *inversion* of this relation of precedence, by inserting the manipulation of tools into the equation of the evolutionary theory. According to the author, it does not make sense to think of technology *as a consequence* of the state of human being nakedness, since genesis of technology is the reason why a particular apparently non-adapted physiology would appear. While the need for adaptation in animals would be related to the body as a direct means of survival, - a corporal compulsion - humans have liberated their bodies from environmental pressure through the use of artifacts. This bodily release is affected by the handling of tools, thus becoming the *medium* between the pressures for adaptation and the organism, "protecting" the body from its environment. As Alsberg observes:

> The principle of animal evolution is that of compulsory adaptation to the environment by means of the body: the principle of body-compulsion. The principle of human evolution is that of freeing man from the compulsion of body-adaptation by means of artificial tools; the principle of body-liberation.[315]

Identifying this distinct evolutionary drift *has direct consequences for the interpretation of the history of humans as a species* since the adaptation to the

[315] Alsberg, P. *In quest of man: a biological approach to the problem of Man's place in Nature*. p. 38.

environment was converted into pressure for better use of tools. From such a perspective, paleoanthropology would play a central role as an empirical counterpart to this new human evolution theory, since it would make it possible to investigate how technical and biological evolution occurred, as well as its structures throughout (pre)history. However, it is interesting to note how Alsberg considers the use of tools and the consequent extra-corporeal adaptations as replacements of organ capacities, and not necessarily only expansions or extensions of capacities, as signaled in the following excerpt.[316]

> The use of artificial tools does not simply mean replacing one means of adaptation, the body-organ, by another more efficient one, the extra-bodily tool. What it really means is that in human evolution the task of adaptation to the environment has switched *over from the body to the tool*.[317]

From such an analysis, we can obtain two critical findings. The first would be about the very relationship between technology and scientific knowledge, since, following the perspective put forward by Alsberg, it becomes difficult to sustain the definition of technology as a by-product of science. In adapting the body to the use of increasingly diverse and complex tools, the pressure for the sophistication of their use and manufacturing processes would have privileged an increasingly greater capacity for abstraction and organization. The second implication would be the anthropological and philosophical perspective commonly adopted on humans, taken as an animal "not adapted" to its environment. Since the pressure for adaptation is displaced from the body-environment interface to the body-tool interface, the humans could be considered well-adapted, but at a different reference point to other animals. On this last theme, Alsberg conducts interesting paleoanthropological work, mainly focusing on the implications of tool use on the human body throughout the ages. [318]

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[316] We will see later in the present text how this indication will be fundamental to reinterpreting one of Sloterdijk's theses in a phenomenological way.

[317] Alsberg, Paul. *In quest of man: a biological approach to the problem of Man's place in Nature*, p. 38.

[318] It is worth highlighting Alsberg's relationship with other authors of similar inspirations. Among them, we could mention Ernst Kapp and Arnold Gehlen. All of them, to some extent, have relevant contributions to this approach formed by the interface between philosophy of technology and philosophical anthropology. Perhaps, the most curious case is that of the French paleoanthropologist André Leroi-Gourhan, who worked on the same interface, but conceived different concepts, such as *exosomatization,* in works like *L'homme et la matière*.[#] Just as Alsberg was important for Sloterdijk to have performed a dislocation on Heidegger's conception of technology, Leroi-Gourhan was fundamental for Bernard Stiegler to have done something in the same direction in *La Technique et le*

4.4
Anthropotechnics and The Domestication of Being

After completing the conceptual exposition stressed earlier, it is time to develop in more detail Sloterdijk's theme of anthropotechnics, as presented in *The Domestication of Being*. The aforementioned text is divided into four sections and constitutes the third chapter of *Nicht Gerettet,* a book composed of essays on Heidegger's work written between 1993 and 2000. In the book's introduction, Sloterdijk explains his intention to recover an author involved in many polemics, addressing topics as delicate as genetic engineering and the ontological difference, for instance. For Sloterdijk, Heidegger appears as an essential author for two reasons: firstly, the fertility of his indications, or the potential paths to be opened through him, and secondly, the very "danger" represented by following him, as long as "Whoever wants to draw on Heidegger today must pass through a flaming wall of suspicions without being certain in advance that the discoveries on the other side of the fire are worth the cost."[319] This situation forces those who take upon themselves the task of reading Heidegger in our times to do so powerfully and creatively.

By crossing the border he warns about, Sloterdijk begins *The Domestication of Being* by understanding philosophy in its history as the operator of a "guerrilla war" against the ordinary understanding of the world and reflecting on the meaning of this attitude. The philosophical state of exception, formally initiated by Plato, already had an ambiguous relation to the establishment of an academy, as the transformation of philosophical wonder into an institution that simultaneously saved and tried to bury philosophy. The experience of wonder (*thaumazein)* was originally and profoundly narrated there but set philosophy in motion by presupposing its capacity of transmission through textual constructions and statements. In fact, its main characteristic would have always been "like the musical moment, a tremor that pervasively tunes those touched by it"[320]. It would then be up to Heidegger, during the 1920s, to "modernise the wonder" in the figure of anguish and boredom, letting the philosophy of his time become in sync with the dramatic scenario of 1920s

Temps. We will not carry out such a comparative analysis here, although it is a promising investigation for the reformulation of technology as an issue in the present time.

[319] Sloterdijk, P. *Not Saved: Essays after Heidegger*. p. xi.

[320] ibid, p. 89-90.

Europe[321]. This philosophical attunement enabled the "thought of Being to be converted into a thought of responsibility"[322], observing the events of the 1930s and 1940s in Europe, and its correlated existential philosophy.

However, this philosophy of extremes would later have been transformed by an imperative of normalization, given the need to "reconstruct the old continent" from past events, a fact illustrated as much by the insurance industry and the *welfare state* as by the linguistic turn and the theory of communicative reason (Habermas) in the humanities. The project of synchronizing the globe and the cybernetic control of its parts could finally be carried out through technical domestication of civilization, bringing the challenges of our civilizational enterprise to a new kind of "extreme"[323]. Then, we can think of our epoch as marked by successive technical developments, with a new radicality, capable of revealing the monstrosity hidden under average circumstances. Regarding such a situation, Sloterdijk points out:

> What is monstrous today comes from the extreme middle. It has long presented itself as a mere phase, or a surging trend that consultants say must be ridden since the illusions of central governance have burst asunder. From the point of view of contemporary history, for decades after Hiroshima, the monstrous manifested itself in a planetary game of omnicide, in which the nuclear powers had taken each other as hostages. It reaches a new phase in the present through bionuclear engineering – insofar as this produces a situation that, if it goes off the rails, could degenerate into taking societies hostage by their own advanced technologies.[324]

However, Sloterdijk does not intend to develop his considerations under the shadow of a "critical hypermoralism" or a "utopian accelerationism". On the contrary, a meditation on the "monstrosity of middle circumstances"[325] can only be undertaken if we ask ourselves about the ontological contours of our technically mediated mode of being-in-the-world, and what the history of this sedimented form of dwelling in the West would be. In posing the question this way, we can return to the concept of anthropotechnics and analyze how it can reposition us in the aforementioned media scandal. Sloterdijk's indication seems to question the *coming-into-the-world* as a technically mediated process or whether the "becoming of the

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[321] Sloterdijk performs a philosophical interpretation of such a scenario in part 4 of the *Critique of Cynical Reason*, entitled 'Historical Main Section'.
[322] Sloterdijk, Peter. *Not Saved: Essays after Heidegger*. p. 91.
[323] As we will see in section 5.5, Sloterdijk will relate this modernization process through technological development as an "anti-gravitation" or the "weightlessness" of our age.
[324] Sloterdijk, Peter. *Not Saved: Essays after Heidegger*, p. 95.
[325] idem.

clearing" can be understood from the viewpoint of its technological mechanisms of self-production. The following excerpt illustrates this objective.

> One of the ventures of the following reflections is that they will give the expression 'ecstase-technology' an ontological sense. *They wager that it is possible to read the ecstatic 'position of the human being in the world' interpreted in Heideggerian terms, as a technogenic situation*. We will skip over a threshold of problems and thus act as if we already had the conceptual means at our disposal to lecture on the history of hominisation as a coherent narrative of the exodus from uncleared nature into the danger that is called clearing. *I am thus asking, thinking with Heidegger and against Heidegger, how the human being has come to clearing [Lichtung] or how the clearing has come to the human being*. We should know how the flash of lightning [*Blitz*] was generated in whose light [*Licht*] the world, as world, was able to be cleared [*sich… lichten]*.[326]

In this excerpt, the author sharply defines his stance on biotechnology. He argues that it is unrealistic to view technology as neutral from an ontological perspective. To ignore the impact of technical advancements on our understanding of existence would be misguided. Additionally, as we will discuss later, technology itself is intricately tied to the process of the opening up of the clearing, considering Sloterdijk's narrative of anthropogenesis. However, such an endeavor needs some "methodological clarifications" to avoid inconsistencies that could make this investigation questionable. The main impasse already highlighted is related to the compatibilization of two apparently incompatible approaches, namely, Heideggerian historical ontology and the natural history of the human being as a species, the latter narrated both by the theory of evolution and paleoanthropology.

As we can notice, Heidegger himself already offered apparent resistance to the ontological implications present in the theory of evolution as an explanation of the phenomenon of life[327]. By turning to the concept of adaptation to explain the processual character of the phenomenon of life, what Heidegger recognises as Darwinism[328] would have reduced organisms to the mode of the present-at-hand, associating such a vision to with what was known at the time as mechanism. Therefore, such a path would simultaneously deny two important aspects already discussed above: the co-constitution between organism and environment indicated by von Uexküll and the ontological difference between animals and humans, which is

[326] ibid, p. 96. (our italics)
[327] This debate takes place in §61 of *The Fundamental Concepts of Metaphysics*.
[328] For a full recovery between Heidegger's relationship with Darwin (and other leading biologists of the time), see *Heidegger and the biologists* in Buchanan (2008).

responsible for preserving an internal coherence when we develop a phenomenological conceptualisation of the living being.

What Sloterdijk seems to suggest in the second part of The Domestication of Being is a productive way of answering the question "how one ought to proceed if one wants to narrate the history of human genesis in a polyvalent style that is superior to primitive antitheses" , that is, in the particular case of the phenomenon of anthropogenesis, to offer an alternative path to the previous impasse. Moreover, the formulation of such an alternative seems to be supported by two important considerations: - the notions of anthropotechnic circle and fantastic reconstructivism.

Starting with the latter, Sloterdijk seems to avoid both a "clearing insulation" and a "naïve realism" of the theory of evolution as a participant in the positive sciences. The clearing insulation relates to the impossibility of hermeneutical-phenomenology continuing the investigation due to his methodological choice, given the difficulty of tracing the historicity of the very phenomenon of life without applying techno-scientific advances and the indirect observations of paleoanthropology, a fact that complicates the relationship between the investigator and the targeted phenomenon. From an existential point of view, anthropogenesis would be the most "uncanny" phenomenon to human beings, due to the chronological distance between it and the researcher (if we follow the biological narrative). Still, it is extremely close to us ontologically since the very question of the "origin" of the human is at stake - a question that seems to escape every time we try to answer it in a "definitive" way[329]. On the other hand, the techno-scientific narrative of evolutionary theory[330] would presuppose the mode of existence of the being studied before the analysis begins, given the previous definition of its validation methods by predictive and exact criteria. In this case, extrapolating Heidegger's observation made in the 1929 seminar, by taking organisms as present-at-hand due to their bond with the environment through adaptation[331], the foundations of the intentional relations of organisms with their environment are already presupposed, thus preventing the possibility of its investigation, and consequently not keeping open the question about the phenomenon of life *as* a *question*. Consequently, by characterizing the

[329] Perhaps it would be up to us to go around in circles around it, as Heidegger himself had already suggested in another context

[330] We characterize the narrative of evolutionary theory as techno-scientific because it is a scientific answer to the problem of anthropogenesis which is only possible through the technological advancements of scientific instruments.

[331] Heidegger, M. *Fundamental concepts of metaphysics - world, finitude, solitude*, p. 263.

human as defined by the method of explanation adopted, the clearing would already have been lost since there would no longer exist any possibility of opening to new modes of Being of this being that asks for its meaning (*Dasein*), and of its subsequent ontological freedom and wandering.

By simultaneously rejecting phenomenology's difficulties conceptualizing anthropogenesis and the lack of ontological interrogation of the life sciences, Sloterdijk proposes reconstructing the "history of the clearing" or "coming-into-the-world" by characterizing its textual genre as a "fantastic reconstruction," acting *as if* it were possible to resolve such an impasse. This implies not having any pretension about the "scientific validity" of such an investigation, or even the construction of an ontology of life, maintaining its mere metanarrative value - not necessarily implying a lack of rigor, originality, or interpretative capacity concerning the phenomenon itself[332]. Regarding this, Sloterdijk points out:

> The dignity of the clearing shall be inviolable. Hence our investigation is anchored – if anchored is the correct expression – in that which Heidegger has called the wonder of wonders, in the awareness that beings are at all, whereby the meaning 'are' here is tantamount to 'lie open' for human beings who reflect on the fact that they are 'in the world' or in the presence of 'Being' in a completely simple, unconditionally marvelous, exposed way. But our investigation refuses to stop with this discovery, and it denies that this represents a finding that cannot be surpassed and at the same time a presupposition that cannot be overtaken.[333]

Initially, setting this curious form of philosophical anthropology in motion seems to make it inevitable not to fall prey to a humanistic perspective.[334] Trying to free himself from this gravitational center, Sloterdijk points to an understanding of the human as something akin to "a conceptual container that, to speak with Luhmann, holds vast complexities"[335] inserted in an anthropotechnical circle. Such an effort seems derived from the necessity to think about the clearing together with its intrinsic technological aspect, or even the infeasibility of resorting to an "exterior point", an "external observation" of the technological unveiling of the real. Consequently, the notion of anthropotechnics would always place us in a cyclical

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[332] It is worth warning the reader of the author's interpretation of Sloterdijk's methodological procedure. Therefore, we will try to be as critical as possible with the so-called "fantastic reconstruction".
[333] ibid, p. 97.
[334] The attempt of labeling Sloterdijk's onto-anthropology as still an humanistic endeavor is present in: Viveiros de Castro, E. *Cannibal Metaphysics*, p. 62.
[335] Sloterdijk, P. *Not Saved – Essays after Heidegger*, p. 98.

movement, as thinking about the set of forces conditioning the clearing is always to understand oneself and subsequently to understand this set of forces in a new way.

When we ask the question in this way, we have to investigate what this process of "becoming human" or the "fantastic reconstruction" of anthropogenesis and its evolutionary mechanisms was to finally have another perspective on the mode of technological production by which we are shaped. From this perspective, it will be necessary to analyze how it is possible to narrate the mechanisms listed by Sloterdijk using some concepts recovered previously. But before that, we can emphasize how the process of "becoming human" is endowed with an opening for Being, which is a narrative, and it is impossible to "be apprehended" in an exact way. The process of anthropogenesis can be inquired circularly, as the notion of an anthropotechnic circle has similarities with the hermeneutic procedure previously undertaken by Heidegger in *The Fundamental Concepts of Metaphysics* with the phenomenon of life[336].

> It is impossible for the human being to step into a clearing that is merely waiting there for him, like someone hiking in the forest. Rather, precisely this: that something pre-human opens itself up toward the human; that something pre-worldly becomes world-forming; that something animalistic has outlived itself as an animal and is elevated from out of animality into existing with means; that something which actively feels, which is caught up in its environment, and which is expansive becomes ecstatic, sensitive to the totality and able to be affected by the question of truth—it is this which first yields the clearing itself. [337] [338]

In this process constituted by the tension between being captivated in its environment and the ek-static, and taking the perspective of the anthropotechnic circle, the human being can be seen as engendered in a technologically mediated process with its surroundings, in which he is simultaneously the product and the producer. Attempting to describe this process helps us understand our hermeneutic situation and the comprehensive limits of the analysis in question.

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[336] Such an approach is delimited in §45a.

[337] Sloterdijk, P. *Not Saved – Essays after Heidegger*, p. 100.

[338] In posing the question in statements such as "that is what in itself produces the clearing first", it seems prudent to interpret this formulation in a more hypothetical rather than assertive tone, contrary to how Sloterdijk puts it initially. This interpretation seems to make Sloterdijk's development more coherent with his own methodological "fantastic reconstruction". It seems naive to maintain the “affirmation” of a coming-into-the-world in paleoanthropological terms taking scientific facts for granted. A more hermeneutic-based interrogation of Sloterdijk’s formulations is indeed necessary, otherwise we will fall prey to what Heidegger warns us in §10 of *Being and Time*, as we discussed earlier in the beginning of section 4.2 of the present work.

Interpreting this tension, Sloterdijk then relates anthropotechnics with the concepts of dwelling and spatiality. As we discuss in Chapter 5 of the present work, the theory formulated in *Spheres* aims to expand Heidegger's concept of space to narrate the process of constitution of subjectivities through coexistence, i.e., a relationship with the other always made possible by the constitution of a between, an inner space[339]. This "in-between", understood as a constructed spatiality, is endowed with an immunizing function, stabilizing the settled referential totality. The preservation of spatiality would be closely related to dwelling, considering the techniques, exercises, and habits for the cultivation and sedimentation of a significant totality in which we are already thrown. In a polymorphic way, Sloterdijk narrates throughout the trilogy *Spheres* how this constitution of interior spaces takes place, and consequently, describes the topology of the West, building a project that he calls "*Being and Space*" at some points. Without going into too much detail on this extensive development now, we can relate some of its essential features to the concept of anthropotechnics. The proposed so-called theory of hominisation aims at a reinterpretation of the Heideggerian notion of dwelling since the mechanisms of acclimatization or regulation of the interior spaces with the environment would be the key to understanding the progressive transition from a disinhibition ring to something that possesses a meaningful network, or *from an environment to a world*. As technology has a central role in this process, Sloterdijk proposes the term *Ge-Häuse*[340], with explicit references to what Heidegger attributes to the essence of technology (*Ge-stell*). Besides the similarity in the way the term is constructed, *Ge-Häuse* seems to be at the center of Sloterdijk's understanding of technology as forming protective dwellings and spaces in the face of a foreign exterior. Consequently,

[339] A more detailed discussion of two points would be necessary here. The first would be the formal indication of "between" (*Zwischen*) in the existential analytic, as Sloterdijk's formulation does not seem to be precisely the one proposed by Heidegger in *Being and Time,* leaving it to us to explore how Sloterdijk performs this displacement. The other point would be a careful reading of *The Poetics of Space* (1953), by Gaston Bachelard, given the centrality of this work for the construction of *Spheres*.

[340] We have chosen to leave the term *Ge-Häuse* untranslated in the present text. However, it is worth remembering some attempts of translations carried out. For English, we have *en-housing* in the translation of *The Domestication of Being* and *Re-sidence* in Elden (2012). In the French translation of the text *The Domestication of Being*, given by Sloterdijk himself in a conference, the expression *puissances créatrices d'espace* is used. In the Spanish translation, they employ the expression *recinto habitado*.

considering the anthropotechnics context, technology for Sloterdijk is deeply related to the "transformation of tension into sovereignty"[341].

This moment is central if we observe both the construction performed by Sloterdijk and the relationship with the theme of life analyzed from a Heideggerian perspective. As already discussed, the problem of the ontological difference between humans and animals is based on a partial and relational result, not taken up by Heidegger with the same dedication after 1929. Considering the advances enabled by such an interpretation and the previous methodological considerations concerning how Sloterdijk poses the question of anthropogenesis, we observe how *Ge-Häuse* points to an *ontological traversing from an environment to a world through technology,* if we want to employ a metaphor with direct connotations to the Heideggerian term *abyss*. This implies one of the main results of the investigation carried out - the intuition of the clearing being related to the ek-static character of the human, although the latter *is dynamic and not static* if we consider the motility of life - the characterization that is missing in Heidegger's ontology of life, as he himself points out[342]. Therefore, the concept of anthropotechnics, while indicating the simultaneous constitution between technology and dwelling, illuminates the "(re)entry into the clearing" executed by the ancestral hunters with the first tools, as well as the possible results of genetic engineering laboratories[343]. Consequently, we will focus now on four factors related (and inseparably intertwined) to the process of anthropogenesis.

The first factor can be named insulation, resulting from a characteristic present in mammals and in many gregarious animals. As a result of the formation of large groups of the same species and their intense interdependence for survival, zones with different evolutionary pressures are created, as the groups have different survival strategies than isolated individuals. This would put the passage of biological characteristics to future generations on a completely different route. As Sloterdijk shows, the reduction of internal selective pressure seems to be strictly necessary (but not sufficient) for any stabilization of inner space - both due to the character of offspring protection and the required mechanisms for the transmission

[341] Sloterdijk, P. *Not Saved – Essays after Heidegger*, p. 114. As we will see in the end of chapter 5, the transformation of tension in sovereignty is mainly related to a process of "explicitation" and "atmospheric design", since the external pressure that humans are subjected to is converted into habitable and designed interiors.
[342] Heidegger, M. *Fundamental concepts of metaphysics - world, finitude, solitude,* p. 264-267.
[343] Sloterdijk, P. *Not Saved – Essays after Heidegger*, p. 135.

of exosomatic memories[344]. Moreover, the formation of groups and their distinct forms of organization would also have direct consequences for the structure called by Heidegger "disinhibition ring". The capacities and respective instincts would function in different modes in intentional structures implied in relations already known by evolutionary anthropology, such as group cooperation and collaboration, synergy and mutual protection between individuals, division of labor, and horizontal and vertical cultural transmission. Here, we can see the direct influence of Hugh Miller in Sloterdijk, as is stated in *Globes*[345], regarding the insulation as a socio-topological process, and also of Dieter Claessens[346], by this relationship between space and human evolution being thematized as an extension of the mother-protective qualities to the social spaces, as grasped by the concept of social-uterus.

Such changes in evolutionary pressure - together with other mechanisms - would have provoked neoteny (our second mechanism) in humans, also known as juvenilization, which was initially characterized by the Dutch anatomist Louis Bolk in 1926[347]. The retardation of fetal traits in adults and the prolongation of juvenile vulnerability are argued by some evolutionary biologists as distinctive characteristics of humans in relation to other primates. Some researchers suggest that neoteny in humans may have played a significant role in human evolution, contributing to the development of our particular cognitive abilities, social behavior, and complex culture. This may have made possible both the greater importance of the mechanism of sexual selection and some characteristics like differences in the size of the arms and head, body covering, facial shape and delayed sexual maturity. Additionally, neotenous facial features in humans may have contributed to the development of complex social interactions and communication, as flatter faces with larger eyes and reduced snouts are more conducive to expressing emotions and engaging in non-verbal communication, as Sloterdijk argues in *Bubbles*[348]. The protection of the offspring becomes drastically more necessary for the survival of this species, creating a feedback loop between neoteny and the mother's caregiving relationship with the offspring, changing the whole organization of the group involved. According to

[344] This last mechanism is not presented by Sloterdijk in the referred text. Still, considering Stiegler's epiphilogenetic thesis present in *Technics and Time 1*, it seems coherent to point out a relation between the exosomatization of memory provoked by technology with the topic developed by Sloterdijk.
[345] Sloterdijk, P. *Globes*, p. 193.
[346] ibid, p. 193-194, 985n2.
[347] Sloterdijk, P. *Not Saved*, p. 120.
[348] Sloterdijk, P. *Bubbles*, p. 163-176

Sloterdijk, this mechanism of incubation and protection, engendered collaterally with language, directly relates to what Heidegger defines as care (*Sorge*) in *Being and Time*[349].

> Precisely because humanly risky bodies were, on the basis of group-incubator technology that is stable and successful over childhood pasts along with them into the present, they had to learn to use another kind of terminology: their laws. Pampering compels provision [*Vorsorge*], provision stabilises pampering. What Heidegger calls care [*Sorge*] is the self-insurance of the context of pampering.[350]

The third mechanism relates to the appropriation of the psychoanalytic concept of transference (*Übertragung*), already signaled in *Bubbles*, when Sloterdijk discusses the so-called siren stage with Lacan.[351] Without going into more detail about this debate, we will take the concept of transference in the context of Sloterdijk's theory of immunological systems and analyze how it relates to Heidegger's notion of dwelling.

With the stabilization of internal spaces in the process of hominisation, the necessity naturally arises to deal with a kind of provoked counter-effect, namely the invasion and threat of destabilization of the groups. Such an irruption, whether triggered by natural effects (catastrophes, plagues) or by other predators, needs to be re-signified based on the symbolic structure available to the group - such as rituals, purification practices, or linguistic expressions[352], for example - so that the exterior

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[349] Sloterdijk's reading of the term *care* seems to be controversial, since in *Being and Time,* there is a clear focus on the ontological conception of care (*Sorge*), being primarily linked to a structural notion of being-in-the-world. Such transpositions, where an ontic interpretation of the term is performed, require a deeper discussion, which Sloterdijk does not make. A deeper analysis of the concept of care can be found in Dreyfus, H. *Being-in-the world*, p. 238-245. Borges-Duarte, I. *Cuidado e Afectividade em Heidegger e na análise existencial fenomenológica*.

[350] Sloterdijk, P. *Not Saved: Essays after Heidegger*, p. 121.

[351] Sloterdijk, P. *Bubbles*, p. 477-438.

[352] About the interface between domestication and culture, it is worth to highlight how the concept of *maximal stress cooperation units* developed by the German philosopher Heiner Mülmann in the work *The Nature of Cultures: A Blueprint for a Theory of Culture Genetics* is important for Sloterdijk's onto-anthropology. The following passage illustrates it in very clear fashion. "We now understand that individual cultures function as primary domesticating agents by safeguarding their members in a symbolic and material order. At the same time, it is evident why domesticating agents cannot themselves be domesticated: they are still oriented to the emergency of non-domesticity, to a life and death battle with foreign cultures – however muted this battle may have become in many places over the course of the modern era, reduced to merely economic competition. In view of these conditions, the phenomenon of culture – that in everyday consciousness is not entirely incorrectly equated with the concept of a "nation" [*Volk*] – can be redefined as a symbolically integrated population whose members cooperate with each other not only in domestic situations, but also in situations of life-and-death struggle. Cultures thus represent real operative survival units – in Heiner Mühlmann's terminology, they are maximal stress cooperation units (MSC units). This definition has the advantage of clarifying why the most successful cultures are simultaneously the most domesticated and the most warlike, as a rule. The classic example of this in the cultural milieu of the West is offered by the Romans, whose civilization formed an enormous parallelogram of familialism and militarism. The secret of

may eventually be transferred to the interior, through a process of interpretation. This movement has an immunological function, making social practices resilient and transmissible, varying locally between groups[353]. This argument is fundamental in *Globes,* when Sloterdijk performs a remarkable genealogy of the psychopolitical structures of the several civilizing moments of the West to offer a more consistent formulation of the concept of globalization - so crucial in current debates on sociology[354].

Although Sloterdijk does not go into detail about the history of these devices, it is possible to infer how both oral language - in its descriptive and performative aspects - and materialized language - from cave paintings to modern linguistic structures - are fundamental stages for understanding dwelling and *Ge-Häuse*.

This does not imply taking language in an instrumental character but rather emphasizes the mutual dependence between language and the clearing in the process of anthropogenesis. The ability to construct spaces, simultaneously moving away from a disinhibition ring with a symbolic construct and creating close relations with other humans, would enable the existential mode of being-with (*Mitsein*). As Sloterdijk points out:

> When Heidegger characterised language as the 'house of Being', he laid the groundwork for insight into language as the universal organon of transference. By means of this, human beings navigate in spaces of resemblance. What is important about it is not only that it appropriates the world that is near, insofar as it assigns reliable names to things, persons and qualities, and enmeshes them in histories, comparison, and series. What is crucial is that it draws near to the foreign and the uncanny, in order to integrate it into an inhabitable, understandable sphere that can be lined with empathy.[355]

The fourth and final mechanism in anthropogenesis is the liberation of the body, which is possibly explored through the recovery of Paul Alsberg's work. By

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Roman culture's success – as with every other distinctive military culture – consisted in the creation of a military technique whose principle could be characterized as the moral control of high-stress reactions in the face of present life threatening dangers. The fact that human beings are able to cooperate in relaxed [*entlasteten*] situations does not require much explanation. Conversely, the fact that men cooperate under maximal stress or pursue common goals even in battle and close proximity to death represents a phenomenon that is very much in need of explanation. Cultural theory shows us that the creation of extremely improbable patterns of conduct such as "maximal stress cooperation" requires a great deal of moral injunction (categorical prohibition of cowardice), cultural idealization (heroism), and technical preparation (weapons training, drill formations)." Sloterdijk, P. *What Happened in the 20th Century?*, p. 30.

[353] ibid, p. 130-132.

[354] Cf. Sloterdijk, P. *In the world of interior capital*.

[355] Sloterdijk, P. *Not Saved: Essays after Heidegger*, p. 132.

thematizing the process of insulation and detachment from the environment, Sloterdijk proposes a possible narrative to explain the transformation of the circle of disinhibition with the "emergence" of the mode of being of ready-to-hand (*Zuhandenheit*), made possible by the first uses of tools.

> The pre-human being produces the first gaps and tears in the environmental ring by becoming the author of a distancing technique by means of striking outward and throwing projectiles, which has repercussions for himself. The human being neither stems from the ape (*singe*) as overhasty vulgar Darwinians believe, nor from the sign (*signe*), as one finds in the language games of French surrealists, but rather comes from the stone or, in more general terms, from hard resources, provided we are in agreement with the view that it was the use of stones that opened up the horizon of prototechnics"[356]

As Alsberg had already identified, the evolutionary trajectory of the human being would be dependent on the history of technology since the latter has made possible the liberation of the body from the pressure for adaptation by displacing this pressure towards the use of tools. As a counterpart, the body itself would be taken on a path of progressive adaptation to the use of tools, a fact present in the paleoanthropological evidence of the hands by their activation: “This breaking out [of the environmental cage] is achieved by the space-creating effect of certain pre-humans actions: deactivation of the body depends on a certain activation of the hand [*Handeinshaltung*]”.[357]

In this case, it is worth detailing how Heidegger's formulations about tools and organs help refine this possible path. There is no pretension to exhaust the following possibilities of analysis but to carry out a not fully developed study of *The Domestication of Being*, mainly by making a phenomenological contribution to the use of tools in the process of anthropogenesis.

4.5
Instrumentality and anthropotechnics

4.5.1
Ready-to-hand and spatiality

Firstly, the introduction of the ready-to-hand character, made possible by instruments, seems fundamental to explaining spatiality and understanding the latter

[356] ibid, p. 114
[357] ibid, p. 113.

in a sense beyond the merely objective and measurable. As observed in §23 of *Being and Time*, Heidegger rejects giving space a condition of *a priori* category for intuition (as Kant) or reducing it to geometric space (as Descartes). In its ontological dimension, *Dasein* is always spatial; that is, in its character of being thrown into the world, *Dasein* always understands itself and other beings in relation to proximity and distance. It is now up to us to understand this ontological mode of understanding proximity and distance and its relations with the mode of ready-to-hand. On the difference between ontic and ontological[358] distances, Heidegger points out: "Spacing (*Abstand*) and remotion (*Entfernung*) do not coincide. Instead, spacing is ontologically founded in remotion and can only be discovered and defined when there is remotion".[359]

Therefore, we can see precedence in the relation between the different forms of distance, naturally transmitted to the connection between distance and ready-to-hand. As already noted, in the use of tools, the possibility of performing some specific task is at stake, not necessarily implied by a theoretical or reflexive understanding of the tool used. Therefore, the priority in dealing with tools rests on how they organize and open possibilities for *Dasein*'s action, not being directly determined by their eventual physical distance.

> Something is near and far insofar as it has a regional place, a place oriented to *Dasein*, in particular its place on hand with it or its handy place allocated in concern. Everything worldly, with which concern is preoccupied, always has its place in a double sense. First, it has its place already on hand with it according to the manner of its worldly being as being-on-hand. In the natural experience and seeing the sky, the sun has its particular places. Second, however, immediately handy environmental things always have their allocated place. Concern has the possibility of allocating its particular place to a thing, which is not at all obvious. What is actually meant by "place" now? "Place" is the where of the belonging of what is handy or on hand in concern.[360]

The proximity character of the tools, in an existential sense, would then be linked with the possibilities of belonging, more intimate or more remote, of the tool in the referential nexus of *Dasein*. Following this argument, *Dasein* is always spatial precisely because of its character of more immediate contact with the world. Its

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[358] We refer here to the pair *Abstand* and *Entfernung,* both terms quite challenging to translate into Portuguese and English, considering the use made by Heidegger. The main point here is that the first refers to an ontic distance, and the second is ontological, regarding the discussion about spaciality in Heidegger's existential analytic. Heidegger, M. *History of the concept of time*, p. 225.
[359] ibid, p. 226.
[360] ibid, p. 226

possibilities of action are always guided by the existential distances established between him and the other entities found as ready-to-hand. This interaction between existential distances and possibilities opened by ready-to-hand entities is fundamental for understanding the orientation of *Dasein* in space, that is, the very spatiality created by the referential network of ready-to-hand configures the regions in which *Dasein* moves.

Consequently, it is possible to note the importance of tools in the process of anthropogenesis. Spatial existence, opened by the character of ready-to-hand, enables an entirely distinct form of orientation for living beings inserted in their disinhibition ring. Although there is no guarantee of precise determination of the intentional structures of animals by the issues already raised above, it seems complex to affirm a similarity (or even a difference of degree) in how humans and animals would relate to space.

Thus, the opening towards the ek-sistent and its intrinsic relationship with the problem of ontological difference thematised by Sloterdijk seem to directly relate to the progressive use of tools and its consequences for *Dasein*'s spatiality. Thus, adopting a deflated view of ontological difference while simultaneously connecting ready-to-hand with spatiality opens a promising investigative path to tackle anthropogenesis through a phenomenological approach.

4.5.2
Ready-to-hand and the body

As previously discussed, the difference between organs and instruments is fundamental for the phenomenological investigation of the organism, opening the possibility of using such conceptualization to explore the relationship between ready-to-hand and anthropogenesis. As we previously stated, instruments and organs have significant similarities, such as making something possible, because they are at the service of a task to be performed. However, the most important differences are the following: 1) Instruments are ready for, and their existence does not depend on their continued use, whereas organs exist as long as their functionality is maintained; 2) Instruments are the result of a previous manufacturing plan, performing a function when they are part of a context, thus possessing a necessary external reference for their use. On the other hand, organs are expressions of capacities, and

it is only possible for them to execute a function within an internal reference or when inserted into an organism.

As Sloterdijk (and several paleoanthropologists[361]) argues, the possibility of manipulating tools would have been an essential step for the evolutionary process of humans compared to other animals, in the sense that tools enable a different form of relation between things and organic functions. Thus, it is necessary to investigate the substitutions and creations of technical or organic capacities and map the consequent impact on the body through technological development. On this, Sloterdijk states:

> As a primitive stone technologist, as a thrower, and as an operator of equipment with which to strike, the pre-sapiens became an apprentice of hard resources. Becoming human happens under the protection of lithotechnics. For the principle of technology comes into play for the first time with the use of stones for throwing, striking, and cutting: relieving the body of contact with presences in the environment. That allows the nascent human being to deactivate bodily contact and replace it with stone contact.[362]

For the analysis proposed by Sloterdijk to be more consistent, we can focus on a specific organ (the hand) and explore its relationship with anthropogenesis. The hand occupies a singular position in this issue, presenting itself as the organ responsible for performing the most direct interface with technical constructs. Our hypothesis places the hand as a fundamental organ for expressing a determining capacity for anthropogenesis: *the ability to open new possibilities*. Much is said about the development of the central nervous system and its relation to human evolution. Still, undoubtedly, if we offer the hand a prominent role in anthropogenesis, the hand would have central importance in opening of the human towards its character as a world-former. The hand, with its initial function, linked to displacement and physical protection, is modified towards the manufacture and manipulation of instruments, such as striking and throwing, as well as the possibility of signaling and gesticulating.

The change in capacities and the impact of this change on the organ which makes their expressions possible is remarkable[363]: characteristics such as the

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[361] An interesting contemporary debate about it can be found in. Lambros, M. *How Things Shape the Mind: A Theory of Material Engagement*.
[362] Sloterdijk, P. *Not Saved – Essays after Heidegger*, p. 114.
[363] A reconstruction of the hand from an anatomical and anthropological point of view is carried out by Alpenfels (1955).

independent articulation of fingers, higher precision of movements, and the opposable thumb are some examples. Additionally, we have another consequence for the rest of the body responsible for the expression of this "metacapacity," such as bipedalism and the release of the hand from the displacement function, in addition to the development of stereoscopic vision and the gain of precision in its performance.

In the anatomical evolution of hands, we can observe the drastic changes engendered by the inversion of selective pressure towards the use of tools. Moreover, unlike other internal organs, it is possible to observe in them the intrinsic connection between the capacities they possess and the possibilities opened up by the various tools. The hand is precisely this organ of interface since its most determining capacity (that of opening new possibilities) seems to possess both an external reference (the instruments that activate them) and an internal one (the organism in which they are installed). This dual reference initially causes an interesting conflict in the theory of organs offered by Heidegger, as long as the human organism, understood as implicated in the process of technological production, needs to develop more and more specific capacities for its interaction with tools.

4.5.3
Ready-to-hand and meaningfulness

Another possible way of approaching the relationship between the phenomenon of anthropogenesis and the use of tools is through the concept of significativity. As pointed out in §15 of *Being and Time*, ready-to-hand would take precedence over the present-at-hand, and the most immediate experience of *Dasein* would be guided firstly by the worldhood of the world. In this sense, the ready-to-hand tools already presuppose the formation of a context and previous understanding because the network of meanings is always given due to the facticity of being-in-the-world. As Heidegger observes:

> Every entity that we encounter as equipment has with it a specific functionality, [*Bewandtnis*], an in-order-to-ness, a way of being functionally deployed. The functionality which each entity carries with it within the whole functionality complex is not a property adhering to the thing, and it is also not a relation which the thing has only on account of the extant presence of another entity. […]. The functionality contexture is not a relational whole in the sense of a product that emerges only from the conjoint occurrence of a number of things.[364]

[364] Heidegger, M. *Basic problems of phenomenology*, p. 164.

Therefore, it would not be plausible to define the functional whole as a "characteristic" of the instruments dependent on a specific use or activation by *Dasein*. Nevertheless, the pre-understanding in play always places us in a functional whole, delimiting the possibilities opened up in our daily dealings with the instruments. With them, we find the fundaments of *Dasein's* projecting itself because in the formation of the previous context of meanings, its ontological freedom is delimited. That is, the possibilities of its way of being are always already inscribed in the existential character of throwness (*Geworfenheit*). As Heidegger points out about the functional whole:

> A specific functionality whole is pre-understood. What we here explicitly and firstly attend to or even apprehend and observe in the equipmental context which in the given instance surrounds us most closely is not determinable but always optional and variable within certain limits. Existing in an environment, we dwell in such an intelligible functionally whole. We make our way throughout it. [365] [366]

Therefore, we can establish the importance of ready-to-hand, which is found through the use of technical instruments in the self-domestication of the human being. In the tension existing between the openness of *Dasein* and the captivation delimited by the disinhibition ring, the irruption of a new way of dealing with worldly beings and its consequent reorganization of the way in which the most immediate is unconcealed seems intimately related to the functional whole explored by Heidegger. The emergence of beings *as* beings in the comprehensible horizon of *Dasein* is, consequently, directly associated with how we inhabit and move through the surrounding world, marked by the instrumental context always given and shared by the existential aspect of being-with (*Mitsein*).

This point leads us to the second form of contact between significativity and the process of anthropogenesis. This context of significations by which we move, given by ready-to-hand, is related to the external referentiality of the instruments. As they are interchangeable between individuals, we now have a gregarious

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[365] ibid, p. 164.

[366] This paragraph is important because it addresses an important distinction for the present work. When Heidegger refers to the surrounding world or environment before 1929 (as in *Being and Time*, *Basic Problems of Phenomenology* and *History of the Concept of Time*), he uses the term *Umwelt.* However, as Brentari (2015) points out, Heidegger would have come into contact with von Uexkull's work in 1929, through a seminar by Cassirer. Probably because of this, he adopts the concept of *Umwelt* in a different way in the *Fundamental Concepts of Metaphysics*, when he relates it to the contour in which animals are inserted by their disinhibition ring.

structure of shared meanings, unlike what is made possible by organs (possessing internal references). Consequently, there is now a standard meaningful structure in which the coexistence of a group becomes possible since the instruments used by many enable the sharing of the way in which the world itself unveils among individuals. In this way, being-with (*Mitsein*) finds its fundamentals not only in language but also in the mode of ready-to-hand. As an example, we can think of the manipulation of fire (used together), also analyzed in *Globes*[367], when Sloterdijk addresses the immunological systems created by *thermal communisms*, in which the establishment of an inhabitable space becomes viable not only by the protective context of the technical use of a particular instrument but also by the whole contextual referentiality and shareable meanings constituted in a group.

4.6
Transition III

As we have seen in this chapter, the whole thematization of the coming-into-the-world, as early sketched by Sloterdijk, can be interpreted through a more structured philosophical thematization of anthropotechnics. This reinterpretation of *the human condition as a technical condition* aims both a philosophical investigation of human evolution through fundamental ontology and at pushing the limits of fundamental ontology through positive sciences. By developing this interpretation, we have seen how there are several bridges between *The Fundamental Concepts of Metaphysics* and *The Domestication of Being*, and how those two texts can be helpful in illuminating each other. If, on the one hand, the technological constitution of human evolution can be explored as a possible development of the Heideggerian question left open about the motility of (human) life, on the other hand, the concepts taken from fundamental ontology can be used to investigate the fantastic reconstruction of anthropogenesis phenomenologically. Nevertheless, as we aim to understand technology more deeply in Sloterdijk's work, we still need to analyze the role of concepts such as spatiality and immunology, which were briefly mentioned but not fully investigated. This will lead us to the topic of Chapter 5, in which we will delve into the *Spheres* trilogy.

[367] Heidegger, M. *Fundamental concepts of metaphysics - world, finitude, solitude,* p. 264-267.

5
Ontotopology

Philosophy is its place comprehended in thoughts.[368]

In our examination thus far, we have sketched Sloterdijk's philosophical trajectory, which initially drew significant influence from critical theory - most notably evident in *Critique of Cynical Reason* (1983). After this early stage, one can discern the nascent inklings of an onto-anthropological turn, which would come to full fruition in the late 1980s and early 1990s through seminal works such as *Infinite Mobilization*, *Weltfremdheit*, and *Im selben Boot*, as explored in Chapter 3. These texts not only laid the groundwork for a novel interpretation of technology through the concept of anthropotechnics but also paved the way for the work we will explore in the present chapter.

In Chapter 5, we will undertake an examination of what is widely recognized as Sloterdijk's seminal philosophical oeuvre: the *Spheres* trilogy, comprising *Bubbles* (1998), *Globes* (1999), and *Foams* (2004). This monumental 2,400-page philosophical endeavor will be scrutinized through the lens of two principal concepts - space and immunology. Our aim is not merely to provide a superficial overview but rather to engage in a comprehensive exploration of Sloterdijk's conception of technology as elucidated within his magnum opus.

5.1
Philosophical manifold - towards a multiple concept of space

In examining the *Spheres* trilogy, which introduces the concept of *ontotopology*, we will first analyze five important intellectual influences that shape Sloterdijk's work. These include Jean-François Lyotard, Friedrich Nietzsche, Gilles Deleuze, Gaston Bachelard, and Martin Heidegger, with more emphasis on the latter. Concentrating on Heidegger allows us to approach the *Spheres* trilogy with greater insight, as the concept of *existential space* will be central to Sloterdijk's

[368] Sloterdijk, P. *In the World of Interior Capital*, p. 3.

formulation, enabling later a detailed examination of points in the trilogy where the relationship between space and technology is discussed.

The *Spheres* project can be viewed as a comprehensive response to the philosophical landscape of the late 1990s, characterized by the prominence of postmodernity, as exposed by thinkers such as Jean-François Lyotard and Zygmunt Bauman. As the former states in *The Postmodern Condition*[369], such a concept is heavily influenced by skepticism towards grand narratives that were typically characteristic of the modern project, such as Marxism and the Enlightenment. In the wake of the tumultuous 20th century, marked by world wars and deceptions of humanity with the capacities of its own scientific reasoning that led to looming disasters, such as the atom bombs, the aim of humankind's emancipation through reason was at stake. Simultaneously, the so-called linguistic turn deflated philosophy's pretensions of building foundational frameworks, as language in its own delimitation of what can be said and categorized were brought into the spotlight, for instance, by Wttgenstein's contextual approach to this field[370]Thus, the postmodern era would rely on how specific social contexts and local narratives govern knowledge and communication, as Lyotard extensively discusses in the abovementioned work.

Acknowledging the postmodern diagnosis, philosophy became rather the discourse about the very *impossibility of philosophy*, as it became increasingly difficult to pursue the search for truth by building great metaphysical systems and metanarratives. Contrasting this view, Sloterdijk advances a fantastic narrative that transcends human boundaries, encompassing ontological aspects of the space in which humans simultaneously create and are created by, articulating a large arsenal of authors from diverse origins, such as the ones which we will briefly touch upon. As Sloterdijk provocatively states,

> The wretchedness of the conventional forms of grand narrative by no means lies in the fact that they were too great, but that they were not great enough. The meaning of 'great', of course, remains arguable. For us, 'great enough' means 'closer to the pole of excess'. '[A]nd what would thinking be if it did not constantly confront chaos?'"[371]

[369] Lyotard, J-F. *The Postmodern Condition*, p. xxiii-xxv.
[370] Such as through the concept of *language games*, as presented in the *Philosophical Investigations* (1953).
[371] Sloterdijk, P. *In the World of Interior Capital*, p. 6.

The previous excerpt underlines two notable philosophical influences on the *Spheres* trilogy. First (and not surprisingly), ontotopology is heavily influenced by Nietzsche's ideas, as they feature prominently throughout all of Sloterdijk's work. Particularly, the notion that human thought, situated within the sphere of excess, is linked to perceiving the human as the "animal of which too much is demanded" is characterized by a constant vertical tension[372]. In the contemporary context, this refers to the human propensity to create illusions as a means of coping with the existential void, despite being aware of their associated risks and costs, since humans are thus inextricably connected to the immunological nature of metanarratives. As Sloterdijk claims:

> From the standpoint of Nietzschean or post-Nietzschean philosophical metabiology, "truth" is understood as a function of vital systems that serves in their orientation in the "world" and their cultural, motivational, and communicational autoprogramming. At this level we are dealing with a philosopher/biologist Nietzsche, the author of the famous phrase, "We have need of lies . . . in order to live." In my terminology, one would say that the truths (which I shall term "first-order") are symbolic immune systems.[373]

In spite of our theoretical ability to expose the foundational instability of these narratives, Sloterdijk, following Nietzsche[374], aims to embrace the immunological aspect of philosophy as a *truth function metanarrative*. He aims for a comprehensive fantastic reconstruction that traces the evolution of the *anthropos* - an spheropoietic entity whose mode of existence is shaped by the manipulation of tools - interactively modifying themselves throughout history into a planetary-scale transformative force.

Secondly, we can understand the Deleuzian-Guattarian influence on Sloterdijk since there is a clear movement from the impossibility of a grand narrative in critical theory (regarding the own philosophical aims of the last, as we discussed in Chapter 2) into the famous interpretation of philosophy as concept creation, structured primarily in *What is Philosophy?*[375]. To form concepts, Deleuze and Guattari argue that philosophers must engage in a process of "conceptual personae" creation, which involves developing unique perspectives, approaches, and voices

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[372] As explored in Sloterdijk, P. *You Must Change Your Life*, p. 29-39.
[373] Sloterdijk, P. *Living hot, thinking coldly*, p. 316-317.
[374] This perspective is related to possible interpretations of Nietzsche, F. *On Truth and Lies in a Nonmoral Sense.*
[375] Deleuze, G., Guatarri, F. *What is Philosophy?*

that give life to new concepts. This process is not purely intellectual but also involves affects, intuitions, and experiences, and it is more related to a non-linear rhizomatic approach to thinking, thereby making it the philosopher's task to make sense of these complex relationships and create concepts that can capture and articulate the insights that emerge from these encounters.[376] As can be observed, this perspective is very influential on the *Spheres* project, as Sloterdijk frequently uses his theoretical background as a way of engaging with contemporary topics, such as art installations, political debates about globalization, several famous historical episodes, and discussions about the ecological catastrophe[377].

Furthermore, Deleuze and Guattari emphasize the importance of connecting philosophy to other creative practices, such as art and science. In their view, as is widely known, each of these disciplines has a unique role: art is concerned with creating sensations, science is concerned with creating functions, and philosophy is concerned with creating concepts[378]. As can be seen throughout the construction of *Spheres*, this entanglement between science, art, and philosophy (which is widely explored through works such as *A Thousand Plateaus*) performs not only a stylistic but also a theoretical influence.

One clear example of this issue is Sloterdijk's narrative about anthropogenesis, where human life is not only thought of from a phenomenological perspective but every time evolutionary biologists and anthropologists bring scientific insights. For instance, Hugh Miller's theory, presented in *Progress and Decline,* about insulation as a socio-topological mechanism of human evolution is discussed in *Globes*, and Paul Alsberg's theory, presented in *In the Quest of Man* about the influence of tool handling on human evolution is discussed in *Foams*[379]. Additionally, Sloterdijk employs a literary style that aims to bring to the text almost vivid theatrical descriptions[380], such as when he compares the Heideggerian concept of truth as an *aletheic* opening up of the world as a horizon of meaning with the "moment" when the first

[376] This is also very significant because Sloterdijk paraphrases the famous quote from *What is Philosophy?* in the excerpt mentioned before "[A]nd what would thinking be if it did not constantly confront chaos?" Deleuze, G. Guattari, F. *What is Philosophy?* p. 208.
[377] These and many other themes can be found in Sloterdijk, P. *Selected Exaggerations*.
[378] As is widely explored in: Deleuze, G. Guattari, F. *What is Philosophy?*
[379] Sloterdijk, P. *Foams*, p. 343-344.
[380] Regarding this debate, an insightful observation is that Sloterdijk's Spheres in style is nearer to Deleuze's *Capitalism and Schizophrenia* than *Being and Time*. (van Tuinen, 2007, p. 279).

hominids engage with tools[381]. Another aspect that could be extensively explored is the use Sloterdijk makes of different artistic vanguards to develop his concepts, such as surrealism in *Bubbles*[382] and functionalism in *Foams*[383].

A third significant influence on the *Spheres* trilogy is Gaston Bachelard's *The Poetics of Space*. Bachelard investigates the concept of space through a phenomenological approach, prioritizing its appearance in everyday experiences, such as those within houses, rooms, corners, and cellars. This perspective clearly diverges from a strictly scientific understanding of space as mere metric extension, giving importance to the living, imaginative, and emotional aspects of space, which are deeply intertwined with its symbolic significance and role in human existential experience. Another crucial aspect that resonates in *Spheres* is the dual role of imagination in *The Poetics of Space*[384]. There, imagination serves both a receptive and an active function. Actively, it operates as a productive force, enabling the reinvention of concepts and the generation of new images of the world we inhabit. Receptively, imagination is directly connected to our sensitivity to being affected by space and the intimate relationships we forge with our surroundings.

This influence is evident not only in the preface to the first volume of *Spheres*, which quotes *The Poetics of Space*[385] but also in Sloterdijk's phenomenological-inspired methodology employed throughout the trilogy. Alongside historiographical investigations, Sloterdijk persistently underscores the description of intimate experiences with spaces, demonstrating how the delineation of an interior, where we are contained, and an exterior, with which we are confronted, consistently informs our coexistential structures. This is highly visible in the various discussions about contemporary architecture present in *Foams*[386], or in the intimacy of mother-

[381] The following excerpt is quite illustrative about the kind of "fantastic description" that Sloterdijk operates: "Producing means prophesying things with one's hands. When the hominids start working stones with stones or trying stones to sticks, their eyes become witnesses to events unprecedented in ancient nature: they experience something entering existence that was not there before, was not present, not given: the successful tool, the crushing weapon, the gleaming jewelry, the comprehensible sign. As results of the production successes of human hands, the tools provide their creators with the semblance of a great distinction: these new arrivals in the hominid space are the messengers who report that behind the narrower environmental horizon lies a space of expectation from which something new pours in, bringing us both good fortune and misfortune - something that would one day be called "the world." Sloterdijk, P. *Foams*, p. 347.
[382] Sloterdijk, P. *Bubbles*, p. 368-373.
[383] Sloterdijk, P. *Foams*, p. 682-696.
[384] Bachelard, G. *The Poetics of Space*, p. xix-xxi.
[385] The difficulty that had to be overcome [...] was to avoid all geometrical evidence. In other words, I had to start with a sort of intimacy of roundness." idem, p. 22.
[386] Such as in Sloterdijk, P. *Foams*, p. 467-527.

newborn relations[387] and the subsequent psychoanalytical tenets of associations and constructions of human groups, as well as in many other situations that we shall further explore in this chapter.

Another great influence on Sloterdijk is Heidegger, in the sense that the concept of being-in-the-world is central to the notion of *ontotopology* - the core tenant of the philosophical purpose of *Spheres*. Then, philosophy is not only a speculative movement about how a totality is even possible and how we can build narratives about the possible beginnings of this totality, but also offers a meditation about "being-in-situations"[388] - or a "general theory of being-together"[389].

In order to more comprehensively explore how *Spheres* can be understood as an ontotopology or a general theory of being-together-in-inner-spaces, we will proceed along the following path. First, we will briefly address key concepts in the history of the notion of space within the broader context of the history of ideas, laying the foundation for our subsequent discussion. Next, we will delve into Heidegger's conceptualization of "being-in" and his understanding of space, sketching an important basis for our analysis. Following this exploration, we will examine Sloterdijk's interpretation of the notion of space in depth. This examination is crucial for grasping the underlying framework of the *Spheres* project and, consequently, how the concept of technology is present in it.

Throughout the history of ideas, the concept of space has been a subject of rigorous debate and varying perspectives. To contextualize the concept of space within Peter Sloterdijk's *Spheres* project, it is crucial to examine, albeit briefly, some of the issues that have shaped the philosophical discourse on space. As we will see, Sloterdijk builds upon Heidegger's notion of existential space but also incorporates Bachelard's approach developed in the *Poetics of Space*. Additionally, he does not resign himself to local narratives, as the postmodern Lyotardian thinking would affirm, and he finally integrates the previously highlighted Nietzschean and Deleuzean perspectives.

As stated by Jammer,[390] one significant development in pre-Socratic philosophy was the critical examination of *physis*, which led to the separation of the "experience" of space itself from its concept, fostering divergent conceptions about it.

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[387] Sloterdijk, P. *Bubbles*, p. 477-520.
[388] Sloterdijk, P. *In the World of Interior Capital*, p. 6
[389] idem.
[390] Jammer, M. *Concepts of Space - The History of Theories of Space in Physics*, p. 7-24.

For instance, we can consider the contrasting views of space in the works of Parmenides and Democritus. For Democritus and other atomists, the notion of the void was a logical consequence of reality's material constitution, which comprised indivisible portions of matter moving within an empty extension. Conversely, Parmenides conceived the universe as a continuous, compact entity without change, as if space were the region not occupied by matter.

Another central question in the history of space concerns the possibility of an absolute space, as conceptualized by Newton[391]. This idea was the starting point in attempting a universal mathematization of the motion of all bodies and excluding "transcendental" entities from the scientific understanding of space. This perspective implies a homogeneous and immovable notion of space since gravity could account for the laws of motion governing different bodies, whether on Earth or beyond. This development was also built upon Galileo's ideas of mathematizing the laws of motion, thus discarding the Aristotelian division between distinct universe regions, such as the supralunar world of celestial bodies' perfect motion and the sublunar world.

Since then, the interpretation of space has remained a focal point of controversy in the history of science. A critical aspect of interpreting measurable reality involves the philosophical presuppositions that underpin our understanding of causality within the observable realm while preserving the concept of the void. For example, how can we comprehend the concept of "force" articulated by Newton's laws of motion in a universe without a universal and non-observable transmission medium, such as the ether? As it is possible to notice, one of the main struggles in the history of modern physics was to make sense of an objective and measurable concept of space without resorting to concepts that were hard to measure and grasp mathematically.[392]

However, this absolute notion of space was contested by the Leibnizian concept of extension, which emphasizes the relation between space and the phenomenal world, accentuating our perception of things rather than their absolute spatial position[393]. In this view, space does not exist independently of matter but represents

[391] ibid, p. 95-126.
[392] This is confirmed by the fact that the notion of ether was only debunked in the beginning of the 20th century, with Einstein special theory of relativity and its interpretation of the Michelson–Morley experiment.
[393] Copleston, F. *A History of Philosophy, volume VI: Modern Philosophy*, p. 307.

a potential relation between bodies. Moreover, this perspective influenced another conception of space, as postulated by Immanuel Kant, which is often considered subjective. Kant argues that space is neither a property of the external world, nor merely a relative relation of bodies but rather an *a priori condition* that enables and shapes any form of intuition about phenomena. Consequently, the concept of space formulated by Kant is intimately connected to the inherent structure of the transcendental subject, responsible for internally representing the external world.

In light of these discussions on spatiality, two divergent views emerged as influential in the debates about the nature of space at the beginning of the 20th century. On the one hand, Kant exerted a profound influence on our "mental" understanding of space, or how our cognition represents external phenomena internally in a spatial manner, with this view related to the interface between neuro-physiological and psychological understanding of human beings. On the other hand, modern physics was undergoing a fundamental transformation, as both the theory of relativity and quantum mechanics had significant implications for the classical notion of space as an absolute, homogeneous, and isotropic container in which bodies move[394].

However, almost at the same time that physics was being revolutionized by figures such as Einstein and Heisenberg, a great change in philosophy was happening, led by phenomenology. Although many other authors had significant discussions about the phenomenological interpretation of space, we will focus our next brief observations on Heidegger's early philosophy for practical reasons.

As explored previously, looking at the question of the neglect of Being in the history of metaphysics, Heidegger constructs in *Being and Time* an analysis of *Dasein*, that is, a hermeneutical and phenomenological approach toward the entity capable of posing the very question of the meaning of Being. One of the fundamental steps of such an analysis, at a certain point in *Being and Time,* is the concept of being-in (*In-sein*).[395] To characterize *Dasein* as being-in-the-world, Heidegger makes a distinction between the *categorical* notion of entities contained in the world (as when we speak of a chair that is in a room, in the sense of location) against the sense of *being-in* as *existential* meaning, since *being-in* refers to the constitution of the Being of *Dasein.*

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[394] Jammer, M. *Concepts of Space - The History of Theories of Space in Physics*, p. 127-214.
[395] The concept of *being-in* is elaborated in paragraph 12 of *Being and Time.*

By relating the term "in" to the old German verb "*innan*" (to inhabit), Heidegger guarantees *Dasein* a deep aspect of spatiality: since *Dasein* is always projected into the world, it cannot simply be "removed" from the world and its space to be analyzed. The following excerpt from *Being and Time* can be quite instructive for this discussion:

> Space is not in the subject, nor is the world in space. Space is rather 'in' the world in so far as space has been disclosed by being-in-the-world which is constitutive for *Dasein*. Space is not to be found in the subject, nor does the subject observe the world 'as if' that world were in space; but the 'subject' (*Dasein*), if well understood ontologically, is spatial. And because *Dasein* is spatial in the way we have described, space shows itself as *a priori*. This term does not mean anything like previously belonging to a subject which is proximally still wordless and which emits a space out of itself. Here "*apriority*" means the previousness with which space has been encountered (as a region) whenever the ready-to-hand is encountered environmentally.[396]

We can observe that Heidegger clearly distances himself from both interpretations of space that were the most influential in his time, i.e., the classical notion of physical and measurable space in which matter is inserted, or the psychological view of space as a mental structure that serves to internally represent the external phenomena. This argument is developed mainly in paragraphs 19, 20, and 21 of *Being and Time*, where Heidegger criticizes the cartesian notion of extension, rooted in the tradition of metaphysics as an intensification of taking Being as presence (*Anwesenheit*)[397].

Then, as we already highlighted in Chapter 4, the notion of space in *Being and Time* and other works surrounding it is developed considering the phenomenological notion of world, meaning then that *space is the horizon in which beings come to presence as part of a meaningful totality*. Distance and closeness would only make sense existentially if we consider how strongly or weakly, in certain circumstances, something is considered *ready-to-hand* regarding *Dasein*'s anticipation in its significative totality. Then, something could be physically near but completely far concerning its availability for use and vice versa. As Dreyfus argues[398], spatiality in *Being and Time* can be interpreted as a function of existential concern due to the character of being-in-the-world that *Dasein* has, since dis-

[396] Heidegger, M. *Being and Time*, p. 146. It is also worth highlighting that the same excerpt is discussed in Sloterdijk, P. *Bubbles*, p. 333-342.
[397] Casanova, M. A. *Mundo e Historicidade - vol. 1*, p. 102.
[398] Dreyfus, H. *Being-in-the-world: A Commentary on Heidegger's Being and Time, Division I*, p. 130.

tancing (*Entfernung*) is related to the openness of things in the environment (*Umwelt*) that are more or less available for use by *Dasein*.

5.2
Sloterdijk's concept of space

With this brief recovery of the question of the spatiality of *Dasein* carried out[399], we can return to *Spheres*. For Sloterdijk, Heidegger himself has left submerged an *ontotopology* by a turn made in *Being and Time*. This "turn" would be related to Heidegger's choice to delve into the question of the "who" of human existence, finding a path through the existential structure of *Dasein.* This questioning leads him to the theme of disposedness (*Befindlichkeit*) and its most fundamental mood - uncanniness (*Unheimlichkeit*), further approaching topics such as death, authenticity (*Eigenlichkeit*), and, finally, temporality (*Temporalität*), as developed at the end of the first part and in the second part of *Being and Time*. This turn originates what Sloterdijk claims to be an *ontochronology*[400], i.e., a prevalence of the question of time over space in Heideggerian fundamental ontology. Contrasting with this view, Sloterdijk claims that:

> The present project, *Spheres*, can also be understood as an attempt to recover – in one substantial aspect, at least – the project wedged sub-thematically into Heidegger's early work, namely *Being and Space*, from its state of entombment. We believe that as much of Heidegger's interest in rootedness as can be salvaged comes into its own here through a theory of pairs, of geniuses, of augmented existence.[401]

The proposed path in *Spheres* would focus the question on the "where", exploring the various aspects of the spatiality of human existence that, in Sloterdijk's view, are deeply related to the question of the being-with (*Mitsein*). Human existence is spatial for Sloterdijk because the existential dimension of space is always a process of establishing a relationship with the other through building a common

[399] In the section 4.5.1 of the present work more is discussed about the notion of spaciality in Sloterdijk and Heidegger, which somehow complements what is developed here.
[400] Even though Sloterdijk uses the term *ontochronology* explicitly (Sloterdijk, P. *Bubbles*, p. 333), we shall stress that Heidegger's approach to the concept of time is hardly related to *chronos*, as a collection of calculated intervals by a metric system.
[401] Sloterdijk, P. *Bubbles*, p. 342. Although we will not enter in this debate, the whole critique towards Heidegger's late work can be found in: *Heidegger's Politics* in Sloterdijk, P. *What Happened in the 20th Century?*; Sloterdijk, P. *The Plunge and the Turn* in *Not Saved*.

immune system[402]. Emphasizing the strong relation between existential spatiality and being-with, Sloterdijk continuously addresses the process of forming co-subjectivities and coexistences in a series of descriptions and, perhaps, what one could name *philosophical reconstructions*.

Here, it seems essential to digress into the methodological procedure adopted by Sloterdijk in *Spheres* and its core differences from Heidegger's approach in *Being and Time*. We hope this comparison will clarify the form by which Sloterdijk operates his concept creation in *Spheres*. As is widely visible, Heidegger's *Being and Time* is a work where the philosophical aim and the methodological procedure are deeply linked. He departs from an ambitious philosophical question - reapproaching the forgetting of Being - by taking as a starting point the proper being that can ask for this question (*Dasein*) and its "existential structure." Heidegger's method could be addressed as phenomenological-hermeneutical since he works from successive phenomenological descriptions about this being that asks for the question of Being. Moreover, he always moves "forward" by complexifying his previous standpoints through incorporating new interpretative findings - thus moving into a hermeneutical circle *through* phenomenology.

In deep contrast with this, Sloterdijk seems to operate with a totally different method. Initially, *Spheres* is a work structured in three volumes that are simultaneously connected but can be read in any order[403], where the questions raised at different moments complement each other. This particular arrangement is a consequence of the relation between the specific ontotopology described (e.g., bubbles) and its respective content (a new approach to the problem of "subjectivity" by emphasizing the spatial and coexistential aspect of the human condition). If we analyze *Spheres*' macrostructure, we can notice that *Bubbles* are the intimate coexistential spaces of individuals always formed by a dyad, an ontotopological alliance with another. *Foams* are understood as a post-critical diagnostic of our time since the morphology of the present is seen as a fluid and volatile aggregation and superposition of *Bubbles.* These *Foams* are the macrostructures that remain when the

[402] As we will see in section 5.4, the notions of space and immune system are totally intertwined in Sloterdijk's thinking.
[403] Sloterdijk, P. *Foams*, p. 13.

Globes (a form of organization only possible through metaphysical unity) are gone.[404]

Additionally, Sloterdijk differs radically from Heidegger in terms of his contact with the sciences and arts. As seen throughout *Spheres*, many scientists and artists play an important role in enriching his historical analysis and topological structures, through a (perhaps not so assumed) Deleuzian rhizomatic entanglement between art, science, and philosophy, as we have already mentioned[405].

One more comparison can be made regarding the intellectual scenario of each work - *Being and Time* and *Spheres*: It is possible to see how *Being and Time* is immersed in an epoch where several scientific debates from evolutionary biology and anthropology were in the spotlight. The Darwinian narcissistic wound claimed the lack of biological difference between human beings and other animals, through the idea of a common organic origin of life, and the new debates in anthropology where opposing views, such as evolutionary or relativistic ones, were configuring a new "battlefield" regarding the question of human nature. Therefore, it is arguable that it is not by chance that several authors in Germany published works where these kinds of discussions were also taken into account, such as Helmuth Plessner's *The Levels of Organic Life and the Human: Introduction to Philosophical Anthropology* (1928), Ernst Cassirer and the trilogy of *Philosophy of Symbolic Forms* (1923, 1925 and 1929) and Max Scheler with *The Human Place in the Cosmos* (1929). Again, in our interpretation, Heidegger does not seem to aim at a repulse of positive

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[404] The following answer in an interview is clarifying about the structure of the *Spheres* trilogy.
"BF: The subtitles of the three volumes of *Spheres* - *Bubbles*, *Globes*, and *Foams* - are similarly unusual, as if they were created in a linguistic realm that seems closer to everyday speech.
PS: The term metaphor that you used earlier makes me hesitate a bit because, in my opinion, words like sphere or globe are not metaphors but rather thought-images or, even better, thought-figures. After all, they first came out of geometry and had, beginning with Greek antiquity, a clear morphological sense, which turned into a cosmological sense after Plato. It is different from the titles of the first and third volumes, Bubbles and Foam. Here we are truly concerned with metaphors, at least on an initial reading. With Bubbles I tried to describe the dyadic space of resonance between people as we find it in symbiotic relations—mother and child, Philemon and Baucis, psychoanalyst and analysand, mystics and God, etc. By contrast, in addition to its metaphorical meaning, foam—I use it instead of the completely exhausted term society—has of course also a literal sense. From a physical perspective, it describes multi chamber systems consisting of spaces formed by gas pressure and surface tensions, which restrict and deform one another according to fairly strict geometric laws. It seemed to me that modern urban systems could be easily understood with analogy to these exact, technical foam analyses. Spheres III emerged out of this intuition. One finds in this hybrid book a great deal of commentary on the transformation of sociology into a general theory of "air conditioning." Foam: That is, modern people live in "connected isolations," as the US architectural group Morphosis put it thirty years ago. In social foam there is no "communication"—this is also one of the words facing an apocalypse—but instead only inter-autistic and mimetic relations." Funcke, B. Sloterdijk, P. *Against Gravity*.

[405] In this point, we agree with van Tuinen that Sloterdijk's *Spheres* in style is closer to Deleuze's *Capitalism and Schizophrenia* rather than *Being and Time*. (van Tuinen, 2007)

sciences. However, he claims to make this wild plethora of ontic discoveries "ontologically more transparent"[406] before incorporating them into an ontological investigation level. This choice seems to be a methodological one, regarding those background questions that were also inevitably developed by other authors of German philosophical anthropology.

On the other hand, Sloterdijk's *Spheres* is a response in the form of a huge post-metaphysical grand narrative about the relationship between space and human existence after years of postmodernism, critical theory, and deconstruction, where all kinds of attempts were made to localize philosophy in the pole of the negative[407]. It is for this reason that Sloterdijk - mainly after *Weltfremdheit* and *Weltrevolution der Seele* – became more explicit about a philosophical attunement towards uplift, or the reversal of the "metaphysics of the negative," through a methodological Nietzscheanism of affirmation of philosophy as a quasi meta-biology. This perspective can be traced back to *Thinker on Stage,* where we can locate developments regarded as *Dionysian materialism*:

> "Dionysian materialism": the formula expresses the need for a rapprochement between the post-Marxist and post-Nietzschean currents, a highly implausible encounter in the academic and public context of the time. It's true that I haven't explicitly gone back to this formula in the fifteen years since the publication of *Thinker on Stage*. And yet it's become virtually second nature to me, and if I didn't use the expression often, that's because I'd formed the habit of considering all my problems and all my interventions in the affective light of this concept – without having any further need to develop its purely theoretical dimensions. I carry the notion on my head like a miner's lamp; without it I couldn't follow the seam that keeps leading me on.[408]

Returning more explicitly to the discussion about space, subverting the Sartrean motto, *Spheres* can be seen as a grand narrative in which "coexistence precedes existence"[409], since existential space is always a measure between two poles. This development aims to revert the Heideggerian notion of space, since, inevitably,

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[406] Heidegger, M. *Being and Time*, p.76.
[407] As van Tuinen argues, Sloterdijk belongs to a tradition of authors in contemporary philosophy which takes philosophy (although by different approaches) as an affirmative task, like Nietzsche, Foucault, Deleuze and Bergson (van Tuinen, 2007). As is possible to observe in several moments, Sloterdijk associates central aspects of the history of the 20th century as the passion for gravity, as if reality could only be understood by "scarcity, need, lack of resources, violence, and transgression. At the core of all of these theories, which for the most part emerge as anthropologies, as economies, and as theories of a parsimonious nature, statements about the real, aka "nature" or "history," can be found that limit the realm of human freedom to the reluctant gesture of submission to the law of the real". Sloterdijk, P. *What Happened in the 20th Century?*, p. 62.
[408] Sloterdijk, P. *Living hot, thinking coldly*, p. 320.
[409] Sloterdijk, P. *Burbujas*, p. 16.

what is more significant for Heidegger in *Being and Time* is the relation of care as a form of anticipation, which serves as the source of the temporal dimension of *Dasein*'s ecstatic existence.

In the genesis of Sloterdijk's ontotopology, we find several notions that demand careful examination. Of these, the idea of the 'sphere' takes a prominent role.[410] This concept, which can be traced back to Parmenides' poem and now forms an integral part of the contemporary civilizational framework through concepts such as globalization, serves as a powerful allegory that extends across epochs and civilizations. The sphere, a "three-dimensional geometric figure formed by equidistant points from a defined center," is a recurring motif in humanity's ceaseless attempts to represent the world and our own existence within it. It is also intimately associated with the concept of anthropotechnics, as we attempt to create spaces of safety and stability through intergenerational and iterative techniques of self-production. Consequently, these long-standing spheres in human thought and philosophy suggest an enduring quest for 'habitability' and 'stabilization' throughout history[411]. This quest involves constructing material, symbolic, and psychological frameworks to withstand the harsh realities that exert pressure on our collective existence. Such arrangements necessitate delineating spaces between two or more entities, infusing our existential spatiality with the alliances necessary for coexistence. This

[410] Regarding the term "sphere," the following consideration may be useful. When Sloterdijk takes as a departure point Heidegger's fundamental ontology, it is understandable that both authors share a critique of metaphysics that takes Being as presence (*Anwesenheit*). By opting to not fall prey of such a critique, Sloterdijk develops an *ontotopology*, assigning an absolutely central role to the existential space formed by the mutual constitution of individuals, thus engaging in a series of reconstructions of the formation processes of these spaces "to contribute to dissolving the crushing heritages of the metaphysics of substance and of the isolated thing, which are still firmly anchored in people's mindsets" Sloterdijk, P. *Neither Sun nor Death*, p. 138-139. However, this development is not sufficient to explain the precise choice of the concept of "sphere" to represent these multiple space-creation processes. We can enumerate three interpretations for this choice. The first, as Elden recalls, is rooted in an inspiration for the "archaeology of spatial thought" extracted from the puzzle Sloterdijk had with the figures formed by arrows and circles present in the *Zollikon Seminars*, one of Heidegger's rare attempts at using figures to explore the spatial reference in the concept of *Dasein* through a *roundness* aspect (Eden, S. *Sloterdijk Now*, p.7; Funcke, B. Sloterdijk, P. *Against Gravity*). Secondly, Sloterdijk's choice seems central if we consider the influence of Bachelard's *Poetics of Space*, especially the chapter titled *The Phenomenology of Roundness*. In addition to the previous interpretations offered, pragmatically speaking, the concept of "sphere" serves as a useful thought figure for the textual style of the *Spheres* trilogy. By choosing an overly pliable key concept, this allows Sloterdijk to move very freely among various topics, ranging from the history of the earth globe as a social form of representing reality and the human endeavor to build habitable interiors, to psychoanalytic debates about the role of the womb as a medium of mutual constitution between mother and baby. However, we recognize that from the methodological standpoint of a philosophical text, the particular choice of 'sphere' compared to numerous other possibilities can be characterized as arbitrary. This fact only reinforces the thesis that throughout *Spheres*, Sloterdijk affords himself the freedom to compose a text made up of an inextricable entanglement between fiction and philosophy.

[411] We hope to make clear the relationship between space and habitability in Sloterdijk's thinking when we will explore how the concept of immunology is central to the *Spheres* project.

perspective offers a nuanced understanding of the human condition as not just a passive presence in space but an active entity constantly shaping and being shaped by the spheres we inhabit.

In this successive movement of building alliances, coexistence, and openness are constitutive features of humanity, invariably accompanied by an inclination to form relational structures sustained by a shared interior space. Building upon Heidegger's insights, Sloterdijk asserts that "what in the discourse of recent philosophers is denominated as being-in-the-world signifies, for human existence, primarily, being-in-spheres."[412] Alternatively, he states that:

> Because living always means building spheres, both on a small and a large scale, humans are the beings that establish globes and look out into horizons. Living in spheres means creating the dimension in which humans can be contained. Spheres are immune-systemically effective space creations for ecstatic beings that are operated upon by the outside.[413]

Spherology can, therefore, be understood as an attempt to recover the "where" question or even to return the question of location to contemporary thought[414]. With that, the fundamental question to be answered is: *Where are we when we are in the world?*[415] Such a question gains prominence when we encounter Sloterdijk's interpretation[416] of aphorism 125 of Nietzsche's *The Gay Science,* where the madman, with his lantern lit during the day, announces the death of God. The inhabitants of the era of radical nihilism are, above all, *disoriented,* ignoring the radical dimension of shared existence. With this, we can observe how Sloterdijk interpretation of the death of God is related to Alexander Koyre's reading of the modern scientific revolution[417] since the loss of a bounded and ordained cosmos implies a lack of symbolic delimitation of the meaning of human existence, and contemporary nihilism as a loss of boundaries of our post-metaphysical world.

Since Sloterdijk aims for an approach that nourishes itself with psychological, political, and anthropological descriptions of inner space formations arising from an immunological perspective on human coexistence, the spheres theory can also

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[412] Sloterdijk, P. *Bubbles*, p. 46.
[413] ibid, p. 28.
[414] ibid, p. 27.
[415] idem.
[416] ibid, p. 26.
[417] ibid, p. 20-24.

be interpreted as the "theory of autogenous vessels." [418] To pursue in more detail how the notions of immune systems and ontotopology are developed, some excerpts from microspherology (*Bubbles*), macrospherology (*Globes*), and plural spherology (*Foams*) can be highlighted. Some chapters were chosen for a more concise recovery, as detailing the entire trilogy would not be feasible.

It begins in book 1, with *Bubbles* (microspherical units), structures that are descriptive of the "psychology of the construction of interior space" and the "production mechanisms of co-subjectivity". The construction of an interior space is always the constitution of a between, of a relation. Hence, Sloterdijk puts himself in a *sui generis* position when we observe the history of reflections on the human psyche, a project that he also addresses as an "archeology of intimacy"[419]. Mutually distancing from understandings that delimit an "impregnable interiority" (such as psychoanalysis and the platonic-Christian understanding of an immortal soul) and a "sovereign exteriority" (like post-Darwinian sociological theories and those influenced by historical materialism), Sloterdijk describes individuals as subjects constituted by a shared and distributed subjectivity, an intertwining of spaces formed by the relationship with the other.

In exploring the intricate process of co-subjective formation, we shall revisit the discourse presented in Chapter 2 of *Bubbles*. Here, Sloterdijk's quest for the foundation of a concept of coexistence progresses through an investigation of intimate bipolar spaces through an exchange of erotic radiation, such as in Plato's *Phaedrus*[420] and Marsílio Ficino's interpretation of it[421]. Delving into a rich analysis of art history, with examples from renowned artists such as Giotto and Ambrogio Lorenzetti, Sloterdijk examines[422] how interfacial space consistently serves as a realm where encounters and conflicts transpire, giving rise to intersubjective enigmas, the circulation of affections, and a complex "physiognomic semiology."

The author also probes the history of humanity as a species from biological-evolutionary and anthropological perspectives, as the notion of visual encounter with the other via facial recognition[423] is intimately connected to the processes of anthropogenesis and neoteny, which we have previously explored. To elucidate this

[418] ibid, p. 60.
[419] Funcke, B. Sloterdijk, P. *Against Gravity*.
[420] Sloterdijk, P. *Bubbles*, p. 142.
[421] ibid, p. 139.
[422] ibid, p. 146.
[423] ibid, p. 163.

relationship, Sloterdijk borrows the concept of "faciality," as formulated by Deleuze and Guattari in *A Thousand Plateaus* (1980). The opening up of a face is a determinant factor regarding Sloterdijk's fantastic reconstruction of anthropogenesis since the insulating hothouse of human evolution is partially driven by the different communication possibilities of more complex facial expressions, for instance.

An additional dimension that deserves examination is the interplay between craftsmanship and the representation of faces. This practice originated in ancient imperial eras, such as the Roman Empire, and manifested in the crafting of statues depicting emperors. These technological advancements signify a facet of the establishment of long-range power relations through the reproduction of an imperial visage – a visually distinguishable individual identity of the ruling authority. This phenomenon can be interpreted through a lens concerning the concepts of space and technology, mainly as presented in Sloterdijk's *Spheres*, and more specifically, *Bubbles*.

Following this interpretation, technology functions as the tool *par excellence* for designing spaces[424] – controlled environments wherein humans can reside through familiarity relations. This use of technology is evident in the replication of faces on coins and statues, exemplifying a strategy employed to construct psychopolitical environments in which power can be exercised through technology. In this context, the coin serves as a *medium* through which the emperor's authority can be disseminated and established spatially without requiring his physical presence. By replicating the emperor's facial representation, a mechanism of recognition and symbolic exchange between populations and their rulers is inaugurated in Western history, transcending geographical limitations and enabling new power dynamics.

Also, in *Bubbles*, conjectures are opened about the consequences of contemporary artistic representations of faces, showing themselves to be highly ambiguous[425]. From surrealism to hyperrealism, it can be argued that there is no longer a reasonably stable way in the contemporary era to present interfacial space. Following this path, the encounter with the other inevitably becomes an encounter with oneself if we observe the profusion of mirrors at the end of the 19th century and the insistence on self-representation in terms of imagery, reaching its apex with the digital interfaces of our era. According to Sloterdijk,

[424] About this topic, more is developed in section 5.5.2 of the present work.
[425] ibid, p. 189.

> Thus begins the history of the human who wants, and is meant to have, the ability to *be alone*. The separate actors in the individualistic regime become isolated subject under the dominion of the mirror, that is to say of the reflecting, self-completing function.[426]

The contemporary human's pursuit of self-completion, perpetually observing and being observed through digital interfaces, offers compelling insight into the psychic development of individuals within our technologically driven societies. Drawing upon Sloterdijk's discourse as a reference point can enable a more philosophically nuanced exploration of this technologically mediated individualism.

The trajectory for this investigation becomes evident if we consider the role of social networks in the process of "creating a profile" or, more precisely, the digital simulacrum of the modern individual through self-representation in cyberspace. As a result, the interfacial space undergoes significant transformation, as the proliferation of the digital realm increasingly facilitates interactions between self-representations rather than fostering “real” encounters between individuals, wherein one recognizes the other in a shared interfacial space.

Consequently, a question arises: What kind of co-subjectivity takes shape within cyberspace? One way to investigate this is to ask what social networks are. Cybernetically speaking, one could look at them as feedback mechanisms driven by “views” and “likes” mediated through artificial intelligence algorithms that operate by maximizing the period users are immersed or, as is often characterized, by an impressive term that could have been pulled from *Bubbles* - echo chambers. This spherological metaphor highlights how “co-isolated” individuals appear to experience cyberspace - and, as has been exemplified recently by dangerous political events, how these modes of co-subjectivity production conflict with the installation of genuine political space.

5.3
Immunology - between biology, politics, and technology

After analyzing the concept of space more broadly and more closely on the developments present in *Spheres*, we can move to the next topic. Here, we will

[426] ibid, p. 203.

explore the concept of *immunology*. To do so, we will proceed in three steps. Firstly, we will briefly analyze how other key contemporary authors thematize immunology, in order to lay the groundwork for a comparative analysis between different approaches. Secondly, we will sketch the main features of Sloterdijk's approach to immunology, contrasting it with the previous characterizations made of the other authors. Finally, we will discuss how Sloterdijk's sphero-immunological perspective is related to the original interpretation of technology (in our view).

Immunity is a topic with a considerable history that confirms the hypothesis of mutual influence between fields such as political theory and physiology. The survival of an organism from its environment and the ability of a nation to reproduce its form of life for the next generation emphasize the ambiguous meaning of words like sovereignty and vulnerability. Regulation of fluxes, protection of borders, and neutralization of internal and external threats: all are themes deeply engaged with by both by scientists, philosophers, and political theorists through the history of the West, and that recently have been in the spotlight[427].

Thus, Sloterdijk is neither the first nor the last to develop the concept of immunity into a framework we could define as contemporary continental philosophy. One example is Donna Haraway[428], who in 1989, explored the concept of immunology, placing it within the background of gender studies and a socio-constructivist perspective on science and technology. Following her argument, the modern narrative frequently presents science as a homogeneous entity that uncovers the truth about reality. Hence, this perspective fails to recognize the diverse and heterogeneous nature of scientific practices and discourses. One such concept that serves as an exemplary case is the immune system, which functions as an "ambiguous object of belief, knowledge, and practice."

Drawing from the work of Haraway, we can define "the immune system as an intricate symbol for the principal systems of symbolic and material "difference" in late capitalism"[429]. Within this framework, immune systems are intimately connected to the power dynamics perpetuated by capitalism in postmodern societies, which have moved beyond the dichotomy of nature and culture and now operate

[427] Neocleus, M. *The Politics of Immunity*, Introduction.
[428] *The Biopolitics in Postmodern Bodies: Constitutions of the Self in Immune System Discourse* in Haraway, D. *Symians, Cyborgs, and Women: The Reinvention of Nature*.
[429] idem.

within “fields of difference”[430], where biotechnological bodies or cyborgs - a fusion of “text, machine, body, and metaphor”[431] - are optimized through discourses such as immunology.

Consequently, the immune system transcends disciplinary boundaries and intersects various contemporary practices, which are inextricably linked to science and technology. These intersections ultimately delineate what can be defined as normal, acceptable, and desirable, as dictated by the prevailing power structures within present-day societies. Simultaneously, these power structures define what is considered pathological, undesirable, and worthy of exclusion in the context of Western biopolitics. Taking Haraway’s interpretations, the immune system concept offers a valuable lens through which we can examine the heterogeneous nature of scientific practices and discourses and their intricate connections to the socio-political dimensions of late capitalist societies. It is also worth highlighting that Haraway frequently addresses discursive uses both from historiographical and scientific sources and science fiction works to illustrate how the concept of the immune system - and other concepts that she explores - operates as a constant metaphor in Western thinking.

Another contemporary philosophical exploration of immunity is made by Jacques Derrida[432] when he engages with the events of September 11th in an attempt to comprehend their profound impact on the political configuration of our globalized world. There are indeed other texts in which Derrida uses the concept of autoimmunity[433]. However, we will stay with the one mentioned above just to briefly exemplify how this concept can be used. Derrida posits that a qualitative approach, rather than a quantitative one, is necessary to grapple with the complexity of such events because quantitative comparisons are rendered futile, as the perception of such an event by the subjects and societies is contingent upon an intricate interplay of historical, political, and media factors[434]. Taking the assumption that he still does not really know what happened, regarding its complexity, Derrida proposes to navigate in this "horizon of nonknowledge"[435] by the concept of an

[430] ibid, p. 210.
[431] ibid, p. 212.
[432] *Autoimmunity: Real and Symbolic Suicides* in Borradori, G. *Philosophy in a Time of Terror: Dialogues with Jürgen Habermas and Jacques Derrida*.
[433] Such as in: Derrida, J. *Rogues*; Derrida, J. *Faith and Knowledge* in *Acts of Religion*.
[434] *Autoimmunity: Real and Symbolic Suicides* in Borradori, G. *Philosophy in a Time of Terror: Dialogues with Jürgen Habermas and Jacques Derrida*, p. 92.
[435] ibid, p. 94.

autoimmunitary process, a metaphor borrowed from the biomedical realm to elucidate political structures and conjunctures. This concept highlights instances where protective strategies aimed at preserving the integrity of a political body inadvertently exacerbate threats or generate new ones.

Derrida identifies three aspects that characterize the autoimmunitary nature of September 11th. Firstly[436], he describes the event as a double suicide or a double autoimmunitary blow, wherein the terrorists acted as suicidal hijackers - a part of the system that destroys itself to inflict damage on the whole. Additionally, they violated the US political body *from the inside* by utilizing American technology (e.g., airplanes) to attack central symbolic targets such as the World Trade Center and the Capitol. This complexity is further compounded by the historical alliance between the United States and Saudi Arabia during the Cold War, which clearly is part of the long causal chain that enabled such a plot.

Secondly[437], Derrida emphasizes the trauma's temporal relationship with the future rather than the past, as the most agonizing aspect of the event lies in the "unpresentable future" and the perpetual possibility of further attacks from the almost invisible menace that can come from inside. If we take as background the psychological theory, it is widely known that mourning rituals are done to enable an interiorization of external tensions that still exist regarding the injured and the phenomena that still resemble the traumatic event. Nevertheless, Derrida seems to pose the question: How can we ritualize a trauma that is in the future, not in the past? The result is an autoimmunitary logic since this incapability of dealing with the future comes from the overreaction in attempting to do so, consequently destabilizing the psychopolitical dynamic of the injured. Additionally, this attack is not only directed to the US, in the sense that the injury is inflicted upon the prospect of “mondialisation” or the global political homogeneity that was anticipated following the end of the Cold War - the own possibility of an worldwide structure, which is *the* status quo horizon of contemporary liberal democracies concerning their future.

Lastly[438], the attempts to suppress or deny the trauma through forgetting inadvertently perpetuate the very monstrosity they aim to overcome. Whether military or economic, repressive measures often generate, reproduce, and regenerate the

[436] ibid, p. 95.
[437] ibid, p. 96.
[438] ibid, p. 99.

threats they seek to neutralize. Consequently, Derrida's autoimmunitary framework can be approached as an attempt to understand the complex, self-destructive nature of the September 11th events and their enduring implications for the global political landscape.

Also importantly, in the contemporary philosophical thought, Italian author Roberto Esposito offers a unique reconfiguration of the term 'immunology'. Esposito's seminal works, such as *Immunitas: The Protection and Negation of Life* (2011), place immunology at the center of their theoretical discourses. Briefly approaching it, we can observe that Esposito's immunological philosophy pivots around two central tenets. Firstly, he views immunological systems not merely as constructs within the scientific lexicon but as potential metaphors for political phenomena. This interpretation is predicated on the idea that political entities, akin to biological organisms, necessitate self-defensive strategies to sustain their structural integrity. Secondly, Esposito invokes the etymology of 'immunity' - derived from the Latin term *immunitas*, meaning exempt from *munus*, the duty or obligation expected of community members[439] - to decipher its socio-political implications.

Esposito's work intricately illuminates the complex interplay between immunity and community. One form of understanding this interplay is through his conceptualization of immunity as an "exclusion by inclusion"[440], an aporetic condition he also describes as a "negation of a negation". In this context, living organisms protect themselves by assimilating threatening elements using the same logic that the threat operates on, such as recognizing and eliminating pathogens by the immune system. Analogously, political bodies internalize potential threats through controlled processes, much like how a modern state mitigates ubiquitous violence by exercising its power through a security apparatus. Esposito elucidates this paradox as follows: "Immunity, in short, is the internal limit which cuts across community, folding it back on itself in a form that is both constitutive and derivative: immunity constitutes or reconstitutes community precisely by negating it". [441]

On the other hand, other approaches to the notion of immunity tend to stress the autoimmunitarian component of some procedures present in contemporary Western culture, which can also be called hyper-immunization[442]. For instance, this

[439] Esposito, R. *Immunitas: Protección y negación de la vida*, p. 14-16.
[440] ibid, p. 18.
[441] ibid, p. 19.
[442] Mutsaers, I. *Immunological Discourse in Political Philosophy*, p. 97.

diagnosis would be present in the thinking of Jean Baudrillard[443], when he resorts to the concept of prophylaxis. This medical field focuses on disease prevention and provides a useful metaphor for understanding how excessive social protection can be harmful. If a society adopts overly strict protective measures, it may end up causing harm similar to an overactive immune system that damages its own body. This can be likened to the widespread social monitoring that currently affects the daily lives of millions, leading to various unintended negative consequences.

Finally, Byung-Chul Han, in his work *Topology of Violence*, uses the concept of immunology very differently from the other authors. For Han, the immunological paradigm is associated with a society in which violence was exercised negatively, in a macro-logic[444]. Negation for Han would mean the possibility of an alterity that could be opposed to me and require a defensive response, in the same way that a biologic-immunological system would respond to an environmental threat. This diagnosis is coherent with others made by the author, such as in *The Transparent Society* and *Psychopolitics*. In these works, Han frequently addresses the societal diagnosis made by authors such as Foucault and Agamben as related to a paradigm that is not quite valid anymore, mainly because the way power is structured would have changed due to the new technological and discursive dispositifs of late capitalism, from centralized panoptical structures to pulverized and self-imposed vigilance dispositifs.

More than that, Han associates the disciplinary procedures present in Foucault's diagnosis with external forms of coercion[445]This would link to a negative way of exercising power and violence, which can also be named a macro-logic of violence since it is still attached to huge institutions in which the subjects were contained (like schools, factories, and prisons). This form of violence and power is associated with an immunological paradigm, as the political bodies could still detect a threatening exterior that was then confronted and neutralized.

Contrasting with the previous scenario, according to Han, the present era of a globalized world exercises violence *through positivity*, as what is at stake is a lack of freedom not through outside coercion but through a self-imposed vigilance. The

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[443] Baudrillard, J. *Screened Out* and Baudrillard, J. *The Transparency of Evil*.
[444] Han, B. *Topology of violence*, p. 73.
[445] Of course, Han criticized Foucalt for his diagnosis of an only structural form of power, arguing that it seems not possible to conceive power relations through relations not attached to domination and hierarchy. This argument can be followed in Han, B. *Topology of Violence*, p. 83-89.

performance society in which individuals are supposed to expose themselves in cyberspace and social media tends to exercise its violence positively, as subjectivities are formed to maximize the performance of subjects, by an ideal in which people think that they are free, but in fact, they only seek to compete with the others and themselves. Subjects are entrepreneurs of themselves, no longer subjugated by the classic disciplinary societies but by self-imposed vigilance through the internet, social media, and the necessity to make their performances visible. Thus, an immunological paradigm would not make sense in a globalized world anymore since: "Globalization forces the immunological threshold to be lowered because a strong immunological reaction to the other blocks globalization, which is a process, or rather an excess, of disinhibition and dissolution of boundaries"[446].

After this glimpse into how immunity can be approached by some noteworthy authors of contemporary political philosophy, we can notice both the complexity of the theme and the main differences that characterize such a broad and important topic. Rather than extensively covering it, our primary goal was to offer a minimum sketch that allows us to explore Sloterdijk's singular approach to the concept of immunology and how it influences and shapes his understanding of technology.

5.4
Sloterdijk's perspective on immunology

Firstly, it is important to highlight that for Sloterdijk, the concepts of spherology and immunology are intertwined and are presented in the current text as separate only for schematic purposes. We claim that the whole *Spheres* project forms a unified framework by which the production of spaces in which we dwell (spherology) depends on their climatization against external pressures (immunology). This is evident when Sloterdijk frequently uses the term *sphero-immunology*. In this section, we will briefly delimit Sloterdijk's conceptualization of immunology in five topics and later contrast it with the mentioned authors.

The first aspect that seems central is the interdisciplinary method that Sloterdijk employs when using the concept of immunology. We can compare it with the approach developed by Han in *Topology of Violence* to support our argument. If we look carefully, Han's central claim is that if we look at the phenomena of

[446] ibid, p. 74.

violence in political terms - the instruments of coercion that render possible societal power structures - there is a clear change between modern and contemporary societies. While the former operates from a macro-logical perspective, using centralized and hierarchical sources, the latter works from a micro-logic perspective, where real-time tracking technologies disperse the self-imposed mechanisms. As we have seen, immunology is a concept Han uses to reinforce and explain his argument better. In contrast, Sloterdijk takes immunology as a foundation for all the analyses he conducts, whether related to psychology, political theory, philosophical anthropology, or the history of philosophy. All these fields seem to be reorganized by the concept of immunology in a transversal way, making the boundaries of classical academic disciplines increasingly fuzzy. For authors like Han, however, the question of immunology arises *from* political philosophy and stays inside its borders.

Secondly, for Sloterdijk, immunology is fundamental for building his new interpretation of the history of Western metaphysics and its relationship with historical movements that have changed the history of our world. In this sense, Sloterdijk aligns himself with authors such as Heidegger and Hegel. It would still be possible for him to make philosophy by writing grand-scale narratives, besides the skepticism that has been raised against them by post-modernist authors.

More precisely, one way to interpret the concept of immunology is by analyzing Sloterdijk's construction as a reevaluation of Heidegger's history of metaphysics. We will then first analyze Heidegger`s approach to the history of metaphysics very briefly to develop Sloterdijk`s perspective on it later. As is widely thematized by Heidegger's secondary literature, after the turning (*Kehre*), Heidegger shifted his focus from a fundamental ontology, which began with the existential analysis of *Dasein*, to an approach centered on the history of Being itself, or how the whole history of metaphysics could be viewed as a history of forgetting of Being. In this broad narrative, the concern is not the factual analysis of historical events but a much more profound comprehension of how the historical possibilities of comprehension of beings as a whole are opened. This, in turn, also implies also the self-comprehension of the human by a ground that transcends individual choices or preferences.

One example of this type of reading, which is one of the traits of the texts of the 1930's and the beginning of the 1940's of Heidegger's phase known as the

search for a History of Being[447] (*Seingeschichte*), is in *Plato's Doctrine of Truth*[448]. In this text, we observe one of Heidegger's most careful and famous readings of Plato, focusing on the widely known Allegory of the Cave, located in book VII of the *Republic*. In Heidegger's interpretation, the key issue is how there is a change in the notion of truth in Plato's philosophy and, consequently, how truth itself was decisively understood in the history of metaphysics. As he already thematized in paragraph 44 of *Being and Time*, the understanding of truth as the correspondence between the judgment and object already presupposes an antecedent comprehension, an open horizon of meaning, an unfolding of Being[449]. In *Plato's Doctrine of Truth*, we see a detailed analysis of how the more original notion of truth as *alétheia* (unhiddeness) was transformed into *orthótes* (correctness), and how significant this change is for understanding the political-pedagogic Platonic perspective, which is founded on a specific openness of Being.

Another important example of Heidegger's analysis of the History of Being is in *The Age of the World Picture*[450]. There, he interprets the concept of the modern world picture, provided by the understanding of reality in cartesian metaphysics, where there is a clear separation of a subject that comprehends the world objectively by its capacity of reason and representation. As Heidegger claims, the question of a History of Being is not asking what the world picture of the modern age is, i.e., the historical and cultural basis that conditions the modern epoch, but asking *how it became possible precisely in this epoch that the comprehension of an epochal age is done by asking its world picture* - or how Being itself was sent to us in the modern age. Thus, there is a clear relation in how the concept of *world* in the modern age is founded upon the idea of representation, consequently paving the way to modern science being understood as the most adequate method for producing correct representations of reality.

Then, the history of Being can be seen as a path where Being is taken more and more as a being, leading to a long history that has its starting point in Greek metaphysics and eventually led to the world characterized by the essence of technology as enframing, in its techno-cybernetic consummation. The Platonic

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[447] Some scholars divide Heidegger's production in three phases indicating a search for "the meaning of Being" until 1927, from the *kehre* until the end of the 1940's would be "the truth of Being", and from the mid 1940 on would be a thinking of "the place of Being". Malpas, J. *Heidegger's Topology*.
[448] *Plato's Doctrine of Truth* in Heidegger, M. *Pathmarks*.
[449] Cf. William J. Richardson, W. J. *Heidegger. Through Phenomenology to Thought*, p. 211
[450] *The Age of the World Picture* in Heidegger, M. *Off the Beaten Track*.

transformation of truth as correctness, the objectivity of modern representation as correct images of the world, and then beings revealing themselves as standing-reserve forms a narrative progressively settled after the 1930's, connecting the dots of Heidegger's onto-historical comprehension of the West. This history, which begins in Greek metaphysics and, after a whole trajectory, leads to techno-cybernetical control of all beings, is grasped in Heidegger characterization of the essence of modern technology.[451] As Sloterdijk rightfully claims, that may be metaphorically perceived as the "burning away of a conceptual fuse that winds from Athens to Hiroshima." [452]

By elaborating his interpretations of the history of metaphysics as a morphology of the world, Sloterdijk connects the concept of spatiality and immunology in his theory of the spheres as a way of simultaneously looking into the ecstatic character of human existence and building of theoretical frameworks that make sense of the reality, serving as a civilizational form of relation with the unknown exterior, e.g., metaphysical systems. In this sense, immunology and spatiality are necessarily linked with Sloterdijk's claim when he inquires about the separation between the ontical and the ontological in Heidegger's philosophy, especially after the turning. Where Heidegger sees a transcendental concept of world that is progressively unfolded by technology as its mode of revealing, which has its foundations in the change of the concept of truth, Sloterdijk seeks to show the constitution of the world as possible not only by a historical horizon of significativity and human existential structure[453], but also by the entanglement they have with material artifacts, ritual practices, and power relations. Such a complex analysis is done both by the interpretation of: 1) the intersubjective space of coexistence and its protective strategies and; 2) the ontical and metaphysical mechanisms that enable human groups to stabilize and transmit to the next generations their forms of life, considering the external pressures that they receive from their environment (*Umwelt).* Immunology can consequently be understood as an hybrid theory that considers both ontological and

[451] The following excerpt is quite instructive about Heidegger's indication of the explosion of the atomic bomb as a long-range process symbol. "Man stares at what the explosion of the atom bomb could bring with it. He does not see that the atom bomb and its explosion are the mere final emission of what has long since taken place, has already happened. Not to mention the single hydrogen bomb, whose triggering, thought through to its utmost potential, might be enough to snuff out all life on earth. What is this helpless anxiety still waiting for, if the terrible has already happened?" Heidegger, M. *Poetry Language, Thought*, p. 164.

[452] Sloterdijk, P. *Not saved - Essays after Heidegger*, p. 135

[453] This analysis is made taking for granted the argument that Heidegger indeed privileges the ontological, which is not a simple debate after all.

ontical aspects of the coexistential space formed by human beings through their history.

Focusing on the macro-immunological perspective, we can pinpoint how Sloterdijk discusses Platonic and Cartesian metaphysics and compare it with Heidegger's analysis. Sloterdijk's discussion is extensively approached in *Globes* and questions the process of creation and change of the political-civilizational structures that enable the mutual interaction between humans in the world[454]. Before briefly analyzing both interpretations, it is worth highlighting that besides the fact that Sloterdijk and Heidegger usually offer very "heterodoxical" interpretations of canonical authors, which are frequently challenged by the history of philosophy scholars, there are also methodological differences between them. While Heidegger frequently departs from etymological analyses of central terms and then operates phenomenological descriptions that enrich his hermeneutic procedure, Sloterdijk offers a broad and quasi-poetic historical background that most of the time is used to stress how the human endeavor produces *multiple kinds of spacialities*.

Heading on to Plato's interpretation made by Sloterdijk, it is easy to see how immunology plays a role in it. At the beginning of *Globes*, Sloterdijk shows how he can operate a transition from *Bubbles* to *Globes*, i.e., moving from medial spaces of coexistential relations to the constitution of wider collective immunological dispositifs[455]. One way of understanding this transition is by taking the concept of the monstrous (das *Ungeheure*). As stated many times in *Spheres*, Sloterdijk situates the human condition immersed in an unfathomable outside, a place which at first sight is insurmountable—not in the ecological sense of biological survival but in an existential one. The world in which we are thrown is not just a concrete condition. It is indeed much bigger than ourselves and generates a pressure that needs to be dealt with or familiarized. In this sense, Platonic philosophy is born from the necessity of grasping the ungraspable by the most abstract and conceptual form of internalizing the world, i.e., by the metaphysics of ideal forms. Agreeing with Heidegger's perspective that our contemporary planetary condition has somehow its roots in the platonic project, Sloterdijk claims that "Globalization began as the geometrization of the immeasurable."[456]

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[454] Cf. *Vascular Memories* in Sloterdijk, P. *Globes*, p. 187-236.
[455] Cf. *Anthropic Climate* in Sloterdijk, P. *Globes*, p. 135-150.
[456] Sloterdijk, P. *Globes*, p. 45.

Taking classic Greek philosophy as the beginning of the process of geometrization of the real and in conjunction with the other analyses of *Globes* highlighted here, Sloterdijk ends the second volume of *Spheres* with a proposal to reinterpret the concept of *globalization,* which was very popular in sociological and political debates of the 1990s and 2000s[457]. The term "globalization," widely used since the end of the 20th century to describe the sociocultural changes in the contemporary world, is interpreted as a phase in a much older morphological process. Starting with the "globalization of Greek metaphysics," Plato's philosophy, associated as the heir to a Pythagorean-Parmenid lineage, represents the realization of the *geometrization of the monstrous*. On Platonic metaphysics as a phase of globalization, Sloterdijk points out:

> The starting date of the original globalization can thus, as an era at least, be determined with some accuracy: it is the cosmological enlightenment among the Greek thinkers, who set the great orb rolling through their combination of ontology and geometry. [...] One could, by way of definition, say that original philosophy was the shift to monospheric thought – morphological idea of the orb. This formalizing act of force involved thinking individuals in a strong connection to the middle of being, and swore them to the unity, totality and roundness of the existent. That is why geometry precedes ethics and aesthetics in this case: first comes the sphere, then morality. [458]

Sloterdijk's interpretation of platonic philosophy resides in a specific topology of Being as roundness or the possibility of connecting human beings with a foundational principle. Representing the whole as a compact figure implies both the placement of human beings relative to each other[459] and its consequences, such as the ethical capacity to separate an outside from an inside and the aesthetic relevance of perfect and timeless ideal forms. Then, for Sloterdijk, it would be inconceivable to think about a civilizational process of conquering the whole planetary orb by a specific mode of being without a "Greek spheric enlightenment." [460]

Regarding Cartesian metaphysics, Sloterdijk views it as part of a bigger transformation that also includes the scientific revolution and how both were a process of shattering an old monospherical, finite, and ordered cosmos. The old immune

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[457] It is worth highlighting that the last chapter of *Globes* (1999), called *The Last Orb: On a Philosophical History of Terrestrial Globalization* was added from a second part and published independently as *In the World Interior of Capital* (2005). For more details on the translations of the two books and their dates, consult the primary bibliography at the end of this work.
[458] Sloterdijk, P. *Globes*, p. 49.
[459] ibid, p. 48-49.
[460] ibid, p. 60.

system was progressively replaced, and the celestial dome was destroyed during the 16th and 17th centuries scientific revolution. "With the help of his relentlessly probing intelligence, the open animal tore down the roof of his old house from the inside."[461] In this way, the Copernican revolution is interpreted as the bursting of a sphere, one of the many morphological changes undergone in the history of civilizations.

Simultaneously, the globe was conquered by the great navigations in a terrestrial mapping process and new means of trading goods (capital). The epistemic shift for a risk-taking mentality[462] in a changing world also set the basis for our synchronized globe. As Sloterdijk states:

> From the time of Columbus on, globalization meant the general futurization of the state, entrepreneurial and epistemic action. It was the subjugation of the globe to the form of profit - which meant the money that returned multiplied to its account of origin after its great loop across the oceans.[463]
> With every ship that is launched, the capitals begin the movement that characterizes the spatial revolution of Modern Age: the circuiting of the earth by the money employed, and its successful return to its starting account. [...] The return of the floating capital from its long-distance journey turns the madness of expansion into the reason of profit.[464]

Moving on to the third aspect that characterizes Sloterdijk's appropriation of immunology, we can discuss how it addresses the problem of the genesis of human beings and their political communities. This problem can be approached because the sphero-immunological journey can be extrapolated from the history of Western philosophy to a longer history, in which its beginning starts with the antropogenesis understood as a coming-into-the-world. In this great arc, the earliest hominin tools that were employed for the defense of nascent protohuman communities seem to culminate into the total isolation achieved with the advent of space travel and beyond[465].

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[461] ibid, p. 23.
[462] ibid, p. 824.
[463] ibid, p. 825.
[464] ibid, p. 842-843.
[465] As we will see later, two important aspects of the concept of technology in *Spheres* related with sphero-immunology are *atmospheric design* and *the process of reality's explicitation*. A radical form of both principles are grasped when we analyze the phenomena of space travel, in which the human ability of transforming environments reach such a point where there? is a total dependence of human habitability on design. "From a philosophical perspective, the meaning of space travel is not that it offers the means for a possible exodus of humanity to outer space or is allied with the supposed human need to keep pushing the boundaries of what is possible; we can safely pass over the romanticism of the exodus. If space travel in ontological terms is important for a technically enlightened

As we have seen in Chapter 4, the problem of the genesis of human beings can be approached by the concept of anthropotechnics, where we investigated how the separation between the biological and the ecstatic aspects of human beings can be more integrated by stressing the recursive practices that render it possible for humans to produce themselves, onto-anthropologically speaking. Introducing the concept of immunity, we can see how these anthropotechnologies are always rendered by protective strategies, be they biologically, symbolic-psychically, or "socially" relevant[466]. For instance, Sloterdijk identifies religious systems as the building of collective immunities, predominantly characterized by practices of the self that operate inside ritualistic, symbolic, and material contexts and have consistently functioned as mechanisms for integrating what can be assimilated within a cultural-existential framework.

From a sphero-immunological perspective, the formation process from the first organized human groups to the complex megalopolises can be read as *utero-technological* projects. This perspective can be further clarified if we observe the influence exerted by the German sociologist and anthropologist Dieter Claessens, whose concepts such as "social uterus" play a central role in his philogenetic theory[467]. The first sphere undone, launching the ecstatic animal into the openness of existence, is the loss of the initial condition of completeness interrupted by birth and the cutting of the umbilical cord. As deeply explored in *Bubbles*, birth is an event that needs to be examined ontotopologically. In this case, birth means the primal experience of coexistential space formation through an ally (the mother) who helps the newborn to build an immunizing interior that can be dwelled. Analogously, every rising human community is understood by Sloterdijk as an act of collective immunization in which a "theopoetical" ally makes possible the stabilization of a set of rituals, rules, and practices that enables communal life. In a quest to neutralize external threats (or stressors of the immune system), the act of wall

theory of the human condition, it is because it builds up an experimental design concerning three categories that are indispensable for the human ability to be: immanence, artificiality and upswing. Manned space stations are anthropological demonstration fields because the being-in-the-world of astronauts is no longer possible except as being-on-the-station. The ontological nub of this condition lies in the fact that the station, far more than any terrestrial island, constitutes a world model, or more precisely an immanence machine, in which existing or being-able-to-reside-in-a-world become completely dependent on technologically world-givers. The suitable onboard philosophy would be Heidegger's theory of enframing, albeit in a positive form". Sloterdijk, P. *Foams*, p. 299.

[466] Sloterdijk, P. *You must change your life*, p. 9.

[467] Sloterdijk, P. *Globes*, p. 193-194; Sloterdijk, P. *Neither sun nor death*, p. 186.

building can be seen through spherological theory as an important part of the possibility of politics through the symbolic mimicry of a uterus in architecture.

> Hence, the human being is the animal that, together with its significant others, produces endospheres in almost every situation because it remains shaped by the memory of a different having-been-inside, and by the anticipation of a final being-enclosed. It is the natal and mortal creature that has an interior because it changes its interior. Relocation tensions are in effect in every place where humans exist; that is why their entire history is the history of walls and their metamorphoses.

The subsequent creation of cities and empires also seems to follow this process, where the walls acted simultaneously as a physical defense system and as true immunizing constructs against the outside and the foreign. Sloterdijk then outlines a genealogy of moral systems in immuno-topological terms, as the idea of good and purity would be associated with the *inside and interiority*, while evil and contamination would be associated with the *outside and exteriority*[468]. Religion, as an *immunological medium and topological delimiter,* would have the simultaneous role of establishing how sacred rites separate the pure from the impure, and delimiting the boundaries between *outside* and *inside* in a social group.[469]

However, it does not seem that the immunological narrative of Sloterdijk operates through clear cut distinctions, existing instead in dispersed gray zones of overlapping forms of immunity. For example, at another point in *Globes,* the constitution of Christianity in the West and its intriguing feat of *internationalization* is explored by Sloterdijk, who explains this feat through a *metaphysics of telecommunications*. The message of Christ, in its evangelical character (of good news), was only able to be established through a complex transmission mechanism of authority over long distances, with Christian symbolism and immunological structure.

> The meaning of authorized telecommunications and representing messenger's speeches can, therefore, only be adequately understood in terms of the logic of the macrospheric space formations. The present sketch touches on how the telecommunicative nervous system of imperial and ecclesial large scale bodies forms itself. The space-disclosing and distance eliminating radiocracy, supported by an all pervasive center religious and center-metaphysics semantics, has always played the pivotal role in it.[470]

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[468] An interesting contemporary debate on this issue takes place in: Hui, Y. One Hundred Years of Crisis. *E-flux*, nº108, 2020. Available at https://www.e-flux.com/journal/108/326411/one-hundred-years-of-crisis/

[469] Such discussions are mainly elaborated in Chapters 1 and 3 of *Globes.*

[470] Sloterdijk, P. *Globes*, p. 748.

Now that we have sketched a minimum theoretical background that allows us to understand Sloterdijk's use of immunology, we will briefly compare his perspective on immunology with the other authors mentioned in section 5.2. Firstly, as we have seen, the history of immune systems in *Spheres* offers a possible arc of interpreting the way human groups internalize external threats in a constitutive way, deeply related to a question from philosophical anthropology, which marks a divergence between Sloterdijk and Han. For the former, immune systems are an operator that enables us to highlight the existential aspects of human groups, related to the ambiguity of the human constitution as a being open to the epochal shifts and the possibilities of questioning its own existence and the current narrative of a biological-evolutionary paradigm. Nevertheless, for Han, immunology is more strictly related to a possible mode of reading specific questions in political philosophy, namely how power relations operate in contemporary societies.

Secondly, we can stress that there are some approximations between Sloterdijk and Haraway. While the former thematizes the role of contemporary immunizing strategies, the latter characterizes immunology as a constitutive feature of the human condition. However, both authors offer a critique of dualist ontologies through the concept of immunology, contributing to the contemporary debate about the validity of the classical sharp separation between Nature and Culture. Aligning themselves with authors like Bruno Latour, Haraway and Sloterdijk[471] offer fruitful conceptual frameworks that lead to discussing hybrids and complex organic-artificial entities. Departing from different places, they arrive in commonplaces due to their shared "constructivist" analysis - if we loosely use the last concept.

There is also a possible approximation of Sloterdijk's position with Esposito, as both tend to read immunology as a constitutive operator of human physical and political existence (or following Sloterdijk more closely, *psychopolitically*). Nevertheless, Sloterdijk seems to focus more on a long-range narrative in which immunology is related to opening up of the ontogenetic question of human existence itself. With Derrida and Baudrillard, Sloterdijk probably has more divergences than convergences. On the one hand, Derrida and Baudrillard tend to focus more on

[471] The most famous work that Haraway discusses this issue is in *Anthropology of the Cyborg*, while Sloterdijk develops a whole discussion about it in the last part of *The Domestication of Being*, under the influence of the Germar scholar Gotthard Günther

immunology as a possible way of reading negative autoimmunitary processes, where the excess of care and protective measures of political groups lead to self-inflicted damage. On the other hand, Sloterdijk tends to formulate a metanarrative that inevitably associates immunitarian processes with the irreversibly planetary technological condition of contemporary Western societies.

5.5
The concept of technology in Spheres

Taking as a premise the developments in Chapter 4, human beings are irreversibly technical creatures since their biological and existential condition are inevitably opened up by technology, not only due to the use of artifacts but because humans produce themselves through self-taming and self-exercising, i.e., long-range autopoietic mechanisms. Complementing this perspective, we are exploring in Chapter 5 how the notions of space and immunology - the main concepts underlying the *Spheres* project - are also fundamental for understanding the question of the human condition *per se* through Sloterdijk's lens.

From now on, we can use both concepts to show how they enable an original way of dealing with the question of technology. It means that through technical explicitation, insulation, and mediation, human beings maintain and transmit their whole support life systems or design spaces where they can dwell by building immunological systems through technology. Later, in Chapter 6, this development will be necessary to confront the question posed in Chapter 2 - How can we think of technology without letting out its transcendental aspect in an era in which the philosophy of technology is heavily led by the need to think *from* the technical objects? How can Sloterdijk help us to question our technical condition *after and with* the empirical turn?

To address this aim, we will explore five possible outcomes from *Spheres* regarding the question concerning technology: Explicitation; Atmospheric design; The weightlessness of the contemporary world; Philosophical anthropology; and the ontotopology of the foams.

5.5.1
Explicitation

> Heidegger rightly taught that technology was a "mode of unconcealing" [*Weise des Entbergens*]. This at once meant that what is technologically unconcealed and made public can only possess a derived phenomenality, a hybrid publicity and an impaired affiliation with perception.[472]

As we have seen, sphero-immunology has a profound intersection with the kind of movement that Heidegger makes when he reads the history of metaphysics as a trajectory that starts in Athens and has its consummation in Hiroshima. However, if we follow Sloterdijk through *Spheres*, this whole trajectory must be understood in several different ways, with particular morphological discontinuities and overlappings. For instance, since modernity, key events have shaken the Western onto-theo-logical immunity constructions, such as the Copernican Revolution and the Great Discoveries of the Sixteenth Century. As Sloterdijk points out[473], these two "abysses" - respectively the cosmological and the ethnological - revealed that the immunological catastrophe of the Modern Age is not the "loss of the centre", but rather the "loss of the periphery" since these events reshaped the *frontiers* of our understanding of the universe and ourselves.

With this turning point, the history of modernity could be seen as a progressive adoption of science and technology as the leading Western attempt to immunize itself against the threats of the outside and the unknown. As Sloterdijk points out:

> Modernity is characterized by the technical production of its immunities and the increasing removal of its safety structures from the traditional theological and cosmological narratives. Industrial-scale civilization, the welfare state, the world market and the media sphere: all these large projects aim, in a shelless time, for an imitation of the now impossible, imaginary, spheric security. Now networks and insurance policies are meant to replace the celestial domes; telecommunication has to reenact the all-encompassing. The body of humanity seeks to create a new immune constitution in an electronic medial skin.[474]

But how do we grasp more precisely this attempt at building technological immune systems? As Sloterdijk will later develop, this is done by empirical and conceptual *explicitation*[475] of all reality domains. This ability to "make the invisible visible" provides a centrality to defensive strategies based on manipulation and

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[472] Sloterdijk, P. *Foams*, p. 75.
[473] Sloterdijk, P. *Bubbles*, p. 29
[474] ibid, p. 25.
[475] Sloterdijk, P. *Foams*, p. 70–81.

unveiling of reality through disclosing its causal relations. There is no more "closed world", as stated by Koyré[476], whose borders we can clearly see, but instead an "infinite universe" susceptible to mobilization and transformation. Thus, in a scenario of progressive lack of metaphysical unity due to modernity's secularization process, Western societies need to find other forms of dealing with the tension of their surroundings since their traditional theo-symbolic immunity is not as effective anymore.

It is also important to highlight how the concept of science and technology as an explicitation process is a strategy that Sloterdijk uses to distance himself from the overused concept of "revolution" to characterize the 20th century. He explicitly situates himself in a theoretical framework more aligned to understand the deep changes of the contemporary world by a *molecular* transformation level, in which implicit cultural norms and forms of life are changed by being brought to light and operationalized through pervasive and diffuse dispositifs. Contrary to what some authors thematize, technology in *Spheres* is not seen as impacting our lives through *disruptions* or by highly centralized mobilization processes responsible for big ruptures and discontinuities in the social structure[477]. Additionally, we can notice that thematizing technology as an explicitation of reality delimits a great difference from the role of Adorno and Horkheimer's *Dialectic of Enlightenment*, as we have already seen in Chapter 3. The contemporary world is driven by technology (thought as a mode of unconcealing), and it reveals the world to us by making all domains of reality explicit and incorporating what was implicit as easily operable.

> The present age does not turn things, conditions or themes over, it rolls them out. It unfolds them, it pulls them into manifestation, it respells them analytically and incorporates them into synthetic routines. [...] It translates dreams into instruction manuals. [...] It translates the monstrous into commonplace. It invents procedures for integrating the unheard-of into the register of the real. [...] It is rightfully called the technological age.[478]

Another mode of interpreting the question of technology as explicitation is analyzing how Heidegger influences Sloterdijk, considering that in both authors, technology can be understood in a transcendental aspect - albeit in Sloterdijk's case,

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[476] Koyré, A. *From the Closed World to the Infinite Universe.*
[477] This is a deep contrast with the thesis held by Stiegler, B. *Dans la disruption. Comment ne pas devenir fou*.
[478] Sloterdijk, P. *Foams*, p. 83.

there is a clear hybrid character of the ontical and the ontological[479]. Hence, following this perspective, there is a process in which Western societies move themselves beyond individual choices and volitions. Like in the later Heidegger, epochal configurations open up specific possibilities of making sense of reality as such and making sense of ourselves. However, Sloterdijk takes a Nietzschean perspective that is absent in Heidegger because the former assumes our mode of unconcealing through technology more directly. In this sense, if there is no way back from a technological condition, thinking and designing new forms of life would be our closest possibility of dealing with our world within our openness of Being.[480] Also, Sloterdijk seems to distance himself from Heidegger in the sense that in the latter, the contemporary topology of Being or the mode of revealing into which we are thrown could be described as a warehouse[481] - a giant and dynamic organizing and searching system that makes every being revealed by its availability, a metaphor of what Heidegger means by *Bestand* and *Gestell* Differently, as we will see later, in Sloterdijk's ontotopology, technoscientific immunulogical practices make *Foams* a possible alternative structure, differently from what Heidegger characterizes as *enframing*.

5.5.2
Atmospheric design

Therefore, if we understand technology in *Spheres* as a form of turning the implicit aspect of reality explicit, this movement can be seen as an attempt to build artificial immune systems through technological mediation. This idea stems from the fact that the environment - understood both physically and existentially - is a central target of technological intervention. This undertaking is made clear in the section of *Foams* called "*Airquake*"[482], which addresses how the 20th century could be described simultaneously as the era of *atmoterrorism* and *atmospheric conditioning.*

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[479] Sloterdijk, P. *Not saved*, p. 100.
[480] This is, of course, an interpretation about Sloterdijk that contradicts himself about how he addresses Heidegger's later philosophy. For instance, Sloterdijk, P. *Not saved*, p. 210-211.
[481] Lyra, E. *A atualidade da Gestell heideggeriana ou a alegoria do armazém*.
[482] The translation of the term created by Sloterdijk in German - *Luftbeben* - is apparently complex. *Luft* means "air" and *beben* corresponds to the verb "to shake", and *Erdbeben* being the term used for "earthquake". *Luftbeben* would then convey the idea of a kind of earthquake in the air. The English translation has chosen the term *airquake,* an adaptation of the term *earthquake*, or *Terror from the air*.

The phenomenon of *atmoterrorism* began during the battles of the First World War, which saw the introduction of chemical weapons, causing the enemy's death due to the inability to breathe. The phenomenon continues throughout history, seen in the use of Zyklon B in concentration camps, in the radioactive terror of Nagasaki and Chernobyl, and the current debate about air pollution in large cities. Parallel to this process of war through turning environments unlivable, there is *atmospheric conditioning*, arising from the 20th century's incessant search for an environment controllable by technoscientific mechanisms. When it is no longer possible to share the same sky through metaphysical domes, the ambition to make local atmospheres adaptable to human aims becomes a continuous task, reflected in the air conditioning units installed in homes and *shopping centers* – true atmotechnological experiments. In this dual movement, one can observe how the ethics of space is manifested in the technological age – to the *outside* and to the *enemy* is designed an environment where it is no longer possible *being-in-the-world* or *being-in-breathable.* An important existential aspect of the atmotechnological era, represented in the environment made explicit, into which *Dasein* is always thrown, would be *being-in-the-air.*

> Air design is the technological answer to the belatedly recorded phenomenological insight that human being-in-the-world is always and without exception a modification of being-in-the-air. Because something is always in the air, the idea of placing it there oneself as a precaution suggested itself in the course of atmospheric explication. As soon as the human dependence on air is formulated in a fundamental tone, it demands a corresponding emancipation. It calls for and achieves the active reshaping of the element.[483]

In the face of these concepts, two comments seem inevitable. The first is a trail left by Sloterdijk, but not developed with much intensity[484]. It refers to the dual meaning of the German term *Stimmung* and its fundamental role in existential analytics. The term *Stimmung* in German has a meaning related to both *the atmosphere* and *mood.* Therefore, the use of the term *being-in-the-air* by Sloterdijk evokes a not-so-explicit interpretation of *Being and Time,* observing the translation of the term *Stimmung* into English (*mood*) and Portuguese (*humor*)[485], for instance. The

[483] Sloterdijk, P. *Foams*, p. 165.
[484] *Anthropic climate* in Sloterdijk, P. *Globes*. p. 135-150.
[485] The translations adopted were those made by Macquarrie and Robinson (English) and Márcia Schuback (Portuguese).

atmospheric character emphasizes the need to understand the mode by which *being-in-the-world* reveals itself and is endowed with possibilities that always pass through an *environment* - in a double sense, both physical and existential - a medium that simultaneously *conditions* and *is conditioned*. What becomes evident, then, is how the constitution of contemporary immune systems is technologically woven, aiming to control the *habitability* and *conductivity* of the environment.

With all these developments here, we can observe an ambiguous role that technology plays in *Spheres*. At first look, Sloterdijk offers a fully-fledged ontological conceptualization of technology or taking the characterization already commented by Ihde, an inquiry into understanding technology with a "capital T". Nevertheless, if we read some excerpts of *Foams* carefully, there is also attention towards how specific artifacts alter the way by which humans beings make sense of reality, and how they act upon it[486]. This latter perspective, in which philosophy is made *from* technology, is more closely aligned with the work developed by the authors attuned to the empirical turn.

For instance, the practice of terrorism relates to the postmodern character of how military operations and conflicts generally work. People do not want to directly inflict damage to another by a direct aggression of the body, or an attack by imposing physical harm - instead, people target the environment in which the group is inserted, as seen in a chemical or even nuclear attack, the aim of damaging electricity infrastructure during an invasion. This also resembles how Sloterdijk atmotechnical reading could be applied to understand modern forms of urban space planning and control, which operate through the manipulation of inhabitable into habitable spaces.

Consequently, technology is responsible to "mediate our relationship with the world" (as postphenomenologists frequently claim) through our spatial existence. In order to blend the empirical and transcendental aspects of technology, Sloterdijk frequently explores in *Spheres* what the factical conditions are that allow for our existence. This hybrid approach allows us to consider technology from both practical and theoretical perspectives. Latour contributes to this debate by noting how Sloterdijk's Spheres helps us understand the real conditions in which *Dasein* exists.

[486] Sloterdijk, P. *Foams*, p. 85.

> Peter asks his master Heidegger the rather mischievous questions: "When you say *Dasein* is thrown into the world, where is it thrown? What's the temperature there, the color of the walls, the material that has been chosen, the technology for disposing of refuse, the cost of the air-conditioning, and so on?" Here the apparently deep philosophical ontology of "Being qua Being" takes a rather different turn.[487]

5.5.3
The weightlessness of the contemporary world

> *The secret of modernity lies in its ability to recruit people of every background and every confession for the greatest of all campaigns: the campaign to achieve progressive relief from that anonymous stress resulting from oppression by the real*[488]

As we have already discussed, when Sloterdijk left behind the critical theory paradigm and progressively adopted an onto-anthropological perspective, he approached the question of coming-into-the-world in several ways. In our case, we are just touching upon one mode of understanding that question: How is the narrative of the becoming of the clearing possible if we approach it through the idea of the progressively constitutive technicity of human beings?

In this narrative, technology for Sloterdijk can be characterized as a mode of unveiling - since it is *by* technology that the whole notion of *world* is not only possible by a fundamental constitution - as a shared significativity that opens up the revealing of beings *as* beings and then the ontological difference itself between beings and Being - but also because the *becoming of the clearing* is possible through technology. In this sense, we understand the provocative statement present in the essay *The Domestication of Being* - "we are on a plane where there is principally technology"[489]. Thus, the *becoming of the clearing* is a process of sphero-immunization, where the human condition of a pampered and self-domesticated animal is cultivated through insulation and progressively technical mediation with the environment. Following this theoretical framework, to gain a more in-depth comprehension of Sloterdijk's concept of technology as developed in *Spheres*, we must engage with his reading of modernity as related to the concept of weightlessness.

The weightlessness in Sloterdijk's thought is associated with a reading of modernity that opposes what he calls conservative readings, which, even if they do not

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[487] Latour, B. Spheres and Networks. Two Ways to Reinterpret Globalization. *Harvard Design Magazine*, Harvard University Graduate School of Design, 2009, pp.138-144. p.140.
[488] Sloterdijk, P. *Stress and freedom*, p. 29.
[489] *Nous sommes sur un plan où il y a principalement la technique*. Sloterdijk, P. *Not Saved*, p. 142.

explicitly present themselves as such, manifest themselves in diverse ways under ontological, philosophical-political, and philosophical-anthropological presuppositions. It is essential to highlight that Sloterdijk has a peculiar understanding of what "conservatism" is, as will become clear in the following exposition – one that states his philosophical trajectory as an attempt to think beyond what he calls *miserabilism*[490].

Firstly, focusing on the social diagnosis or the philosophical-political aspect, we can again observe the return of a "meta-critical" character already broadly shown in the 1980s but now with a different "temperament". As we have already discussed, one of the main criticisms that Sloterdijk makes of critical theory in the *Critique of Cynical Reason* is the progressive erasure of its truly critical potency, in the sense that it is no longer a philosophically fruitful way to provoke a shock or change of position in individuals. This lack of potency would make it impossible for modern societies to reveal the degree of mystification existing within their enlightenment process, as pointed out by Adorno and Horkheimer. Indeed, this ambiguous situation - an enlightenment that could never realize itself because of its own structure - is at the center of cynicism as a concept that would enable critical theory to renew itself, according to Sloterdijk.

However, by definitively distancing himself from aiming a "renewal" of critical theory through the reading of *cynicism/kynicism* as a philosophical project, Sloterdijk now seeks to highlight the insistence of critical theory on methodological negativity, which allows a permanent dialectical tension without a teleological aspect (or roughly what Adorno meant by *negative dialectics*) as a form of pointing out the obscenities of modern enlightenment. This philosophical methodology could be characterized as "serious" or "negative" in the sense that it does not allow the modern phenomenon to be read through the lens of its intrinsically immunizing and "affluent-producing" character. Consequently, most of the European sociology developed in the post-war period fiercely negated the welfare state as a constitutive aspect of these modern societies. As Sloterdijk claims,

> Towards the end of the conservative revolution that took place in the first half of the twentieth century, it turned into a necessitarian reactionism - as if people wanted to save their souls by seeking refuge in hardship and its means for change. This was accompanied by the rise of a new type of ideology, a modal ideology that expressed

[490] Sloterdijk, P. *Foams*, p. 642.

> not ideas, but a need: to falsely/transform back freedom into necessity and wealth into neediness.[491]

Far from posing himself as a defender or "celebrator" of the enrichment process of the first-world population during the twentieth century, Sloterdijk nevertheless addresses the production of luxury, pampering, and comfort through technology as a philosophical question in itself. In this regard, Sloterdijk seeks a positive analysis of the concept of pampering in the final section of *Foams*, since affluence and pampering, constituted through technological development, are not taken for granted as a source or symbol of alienation and loss of authenticity, not getting caught as before in a metacritical vision as in the 80s or the existentialism of the 40s.

> In this context, more recent stereotypes such as consumer society, event society, fun society and the like become diagnoses of the times in some respects: conceptually helpless, but not without substance, these phrases point to the momentous fact that, for the first time since the entrance of remembrance into our space of tradition, the climate of reality in contemporary Western "society" is no longer determined primarily by poverty-related themes and the psychosemantics of hardship, with all the accompanying religious and metaphysical superstructures - despite the efforts of the miserabilist international.[492]

In philosophically pondering the problem of affluence and excess produced mainly throughout the twentieth century, Sloterdijk finds in John Kenneth Galbraith and his work *The Affluent Society* a curious case. For the first time, economics is considered not as the science of scarcity - an idea consolidated by its early theorists, such as Adam Smith and David Ricardo - but as the science of managing excess. Carrying out a displacement from economics to politics, Sloterdijk then tries to illuminate how, under various facets, the problem of excess is what characterizes the challenge of finding co-immunizing forms in the face of the challenges of our technological society, where his Nietzschean and Deleuzean interpretation is a landmark: "What Nietzsche called the free spirit is naturally the rich spirit, and all true wealth shows itself in the primacy of giving - economically, morally, erotically and culturally".[493]

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[491] Sloterdijk, P. *Foams*, p. 642. modified translation
[492] ibid, p. 634-635.
[493] ibid, p. 639.

Even though Sloterdijk seems to offer a new (or renewed) theoretical lens that enables a philosophical-political diagnosis of recent history, some questions arise regarding his diagnosis's extrapolations to other contexts. For example, it seems that the locality of his presuppositions (e.g., affluence as a constitutive social aspect) are hardly transposed to other geographical contexts that have not experienced the welfare state transformations, being necessary to take on a perspectivist framework on such cases.

On the one hand, we struggle to conciliate any framework that departs from local assumptions to build global theories, making it difficult to determine whether it is indeed possible to make such generalizations. On the other hand, due to the global and interconnected nature of the challenges on the horizon of our world, it seems fruitful to build upon those kinds of grand-scale narratives. Sloterdijk definitely thrusts on the latter perspective - as do many authors who posit technology in a transcendental aspect - but he also takes some positions that resemble the former. Nevertheless, what can be regarded as problematic is that he does not explicitly clarify the tension pointed out here.

5.5.4 Philosophical anthropology

Detailing further the miserabilist tendency present in philosophical anthropology, as was already briefly explored in the section on the onto-anthropological turn, *Weltfremdheit* is a seminal work to understand Sloterdijk's thinking because for the first time in his work the human existence is thought by pole of excess, or how luxury and pampering could be seen as structural categories for sketching an alternative philosophical anthropology. Additionally, the development of his thinking that became more solid enabled a mature version of it, by addressing a topological theory of co-subjectivity, by slowly developing a theory of the *luxus*, which is fully grasped for the first time in *Bubbles*.

To understand this process, it is useful to examine how the last part of *Foams* presents a more refined and established version of Sloterdijk's interpretation of Gehlen's work. At the same time, Arnold Gehlen's philosophical anthropology serves as a counterpoint, given the latter's emphasis on characterizing humans negatively - or as constituted by a lack - as deficient beings. For such a characterization, we

will take a brief detour to the thematization proposed by Gehlen in his seminal work *Man - His Nature and Place in the World*, published in 1940.

First, it is important to highlight that Gehlen belongs to a philosophical context shaped by the confrontation between philosophical anthropology and the emerging scientific paradigm of Darwinism in biology, which was the most accepted scientific explanation at the time to the human genesis and change over time, with all its specific developments[494]. Faced with this scenario, and particularly concerned with the issue of biology, several authors delved into the implications of evolutionary theory on the question of human existence.

German philosophical anthropology can be considered a theoretical paradigm of the early 20th century, primarily drawing from the texts of its three central authors: Scheler, Plessner and Gehlen[495]. One of the main similarities between these authors is their inquiry into human beings in their cultural, social, and biological dimensions, taking the results of empirical science but at the same time denying their conclusions without making genuinely philosophical reflections about them first. Besides, it is possible to argue that this approach can not be considered a unified theory because of the lack of positive correspondence and interaction between its main authors. Even though, some scholars point out that its conceptual unity is corroborated by the opposition jointly provided to the authors by both theorists of the Frankfurt School and the philosophies of existence[496].

Another central aspect of philosophical anthropology is that it excludes a teleology of the phenomenon of life (unlike what is present in German idealism, emblematically in Schopenhauer, for instance[497]). However, it also denies that the human phenomenon can be explained from a strictly biological point of view, as postulated by the naturalist paradigm derived from evolutionary theory, which would imply only a difference in degree between humans and other living beings[498]. Consequently, philosophical anthropology seems doomed to a double look that causes an inherent tension in its questioning.

On the one hand, looking at the phenomenon of life from "outside in" or first by reflecting on the intentional modes of other living beings with their

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494 Gehlen, A. *L'Homme - Sa nature et sa position dans le monde*, p. 178-179.
495 Fischer, J, « Le noyau théorique propre à l'Anthropologie philosophique (Scheler, Plessner, Gehlen) », *Trivium* [En ligne], 25 | 2017.
496 idem.
497 On the Will in Nature, Schopenhauer
498 Gehlen, A. *L'Homme - Sa nature et sa position dans le monde*, p. 45-49.

environments, it is possible to notice that humans share with other living beings structural similarities that would allow not only natural scientists but also philosophers to discuss life as a phenomenon shared by organic beings in general. Looking outward, humans see themselves as just one of a totality of organic beings. Likewise, when this perspective is taken "from the inside out," a difficulty arises in directly equating the way humans attribute meaning to the world and question their own existence to other living beings simply because there is no direct way to experience how other organisms self-reflect and structure their reality internally.

Within this context, Gehlen begins with observations and scientific studies of the physiological constitution of the human being as non-adapted to its environment, for instance, through the neoteny theory already explored in this text. Aiming to discuss this notion more broadly and philosophically, Gehlen adopts the heuristic artifact of the human being as a deficient being (*Mängelwesen*) - a starting point that allows to shift from the Kantian question of "what is the human?" to "how can this human still survive being clearly non-adapted?"[499]. From the biological point of view, humans would not possess the necessary specializations to survive in the environment. As a result, Gehlen addresses how the human being, as a species, is endowed with a plasticity not present in other organisms since there are no specializations for functions in particular ecological relations (e.g., hunting a prey inserted in a delimited geographical context). This lack of specialization can be interpreted as the absence of an environment (*Umwelt*) - in the terms that von Uexkull put forth[500], as we have already seen, since human beings can be present in all places on the globe through his technical second nature (understanding the latter in a broadened way, as the complex of tools, culture, and institutions).

However, Gehlen understands the relationship between lack of specialization and fabricated structures as a way of *compensating the latter with the former*. In this sense, humans possess a world openness (*Weltoffenheit*) - a theme formulated by Scheler[501] and broadly used in a different perspective by Heidegger[502] - caused precisely by this compensation and openness to the various possible *modes of existence* provided by such structures. It is worth noting that according to this aspect, Gehlen analyzes how the excess of stimuli provided by this world openness is

[499] ibid, p. 14.
[500] ibid, p. 16.
[501] Cf. Scheler, M. *The Human's Place in the Cosmos*.
[502] Cf. Heidegger, M. *Being and Time*.

consequently stabilized and processed by patterns of repetition, rituals, and conventions, characterized as relief (*Entlastung*), responsible for managing the existential overtaxation caused by a sensory surplus, which branches off into other fields, such as the surplus of possible actions and choices.

With this, Sloterdijk will juxtapose Gehlen controversially and surprisingly with other authors of the 20th century, like Heidegger and Adorno, due to what Sloterdijk characterizes as a form of miserabilism - a *realism* and *passion for the negative* - which will manifest in the previous authors in various ways, such as the socio-political, ontological and anthropological-philosophical aspect. In Gehlen's case, it is possible to see how the theorization of the *homo pauper* takes place by making the issue of lack. The impossibility of biological adaptation only by organic means and the consequent existential incompleteness are the fundamental conditions that characterize the human in his philosophical anthropology. According to Sloterdijk, this will have direct consequences on how Gehlen diagnosed the human situation and its technical development in the 20th century, with his pessimism and critical character of the affluence produced in the Western civilizations, which he saw as a burden societies would have to deal with.

This theme is echoed in various narratives that portray human existence: from the primal transition from the womb and the severing of the umbilical cord to the biblical fall from Eden and even in Plato's myth of human creation in the Symposium. Each of these narratives underscores the same fundamental notion that Sloterdijk reverses: the human condition is not constitutive of a fall or a primordial lack. Humans are inherently spatial beings, forged in the excess of a pampering process, which implies managing world openness through technical mediation and insulation.

5.5.5 Ontotopology of the Foams

Another way of exploring the concept of technology in *Spheres* is by analyzing how the ontotopology of the contemporary world is approached in *Foams.* As we have outlined, Sloterdijk’s choice to investigate the question of the human condition through the concept of space compels him to think in a totally different mode than an interrogation about the “essence” of reality as a “substance” or an “ideal

form". Consequently, technology can be considered beyond an idealist or a materialist framework, focusing instead on the relationship between the plasticity of the contemporary world and its form of technological conditioning. Following this line of thought, the third volume of *Spheres* is dedicated to exploring the structure of *Foams,* reflected in the amorphous and fluid dimension of the contemporary world. This plural morphology reveals simultaneously connected and isolated artificial environments, volatile and heterogeneous in themselves, that no longer conceive of themselves as a unit. Civilizational topologies are no longer based on onto-cosmological creations but on co-isolated islands made possible by technological mediation.

To materialize such an exploration, Sloterdijk devotes several sections in *Foams* to discuss historical cases on architecture and urban planning through his sphereological theory. A helpful example is his discussion about how city planning through apartments[503] is not just an issue of architectural choices but a contemporary expression of the production of existences in a world that fiercely rejects any attempt at ontotopological centrality. Every encapsulated-connected unit claims a paradoxical self-sufficiency of meaning, while also depending on the whole for its infrastructure. Modern individualism is interpreted as a phenomenon in which not only do individuals try to complete themselves by autonomous technical means (a high possibility of choice of consumerist options and set of lifestyles), but the dependency on the reproduction of those lifestyles is only possible by a totally synchronized infrastructure of material fluxes and information. The condition of possibility of contemporary individuals is the topology of the foams, in which small, fragile and enclosed units and their semi-porosity and high-speed connection are dependent on each other. Talking about the foam structure of the knowledge society in big cities, Sloterdijk illustrates what we were discussing above:

> Finally, the apartments can be described as outposts of the alethotope: in every individual life, no matter how much it has rejected the great realm, there is a residual interest in truth - even if it only the demand for words that help the individual to be connected to the sign of times. [...]. In the alethotopic self-relationship, individuals act informally as self-teachers whose task is to maintain a certain congruence with the cognitive or scientific state of a society: as minimal autodidacts, they make idiosyncratic contribution to the publicity accessible resources of the cognitive *souci de soi*. [504]

[503] Sloterdijk, P. *Foams*, p. 610 - 625.
[504] ibid, p. 562.

5.6
Transition IV

As we have seen, to grasp Sloterdijk's concept of technology in *Spheres*, we necessarily face a multifarious perspective. The being that domesticates itself on a collective level through a series of self-iterating techniques also places itself within an environment by producing habitable interiors through symbolic and physical immune systems. Thus, the long-range process of dwelling in a world through technical mediation is made possible due to a world-opening, as the transformation of external pressure into sovereignty allows the world itself to show through coexistential spatiality. In this sense, we have shown how the concepts of space and immunology are inherited and transformed by Sloterdijk, offering a novel interpretation of technology. Additionally, the technical condition in which our planetary civilization is situated presents a challenging situation, in which Sloterdijk also positions himself, offering an insightful diagnosis. These indications and insights related to the previously developed concept of technology will be further explored in the next chapter.

6
The art of the improbable

One of the most controversial and famous quotes about the nature of politics in the history of the West could be attributed to Otto von Bismarck, who affirmed that *politics is the art of the possible*. Turning pragmatism into a necessity of idealism, if we think with Sloterdijk[505], one of our time's key issues is transforming the art of the possible into *the art of the improbable*. We regard this improbability as related (but not only) to our planetary condition because it seems that our only chance of *existing* in a world confronted with impending catastrophes is by inventing new forms of *coexisting* in our material *Ur-condition*, the finite planet Earth. The moderns' infinite expansion of the universe has found a terrestrial boundary by the own hands of science[506]. Consequently, the present transformation of our planetary (co)existence has become imperative for maintaining the possibility of a future.

An art of the improbable would be intrinsically linked to our ability to diagnose and provide philosophical reflections on technology in the context of our planetary era. Upon a thorough examination of Peter Sloterdijk's perspective, it becomes evident that this approach is indeed fruitful, as he underscores the significance of contemporary philosophy in developing grand narratives about our epoch and human existence. Such fantastical reconstructions, according to Sloterdijk, possess the potential to reorient us in an age characterized by extreme disorientation[507] and skepticism towards these grand-scale narratives[508].

In this sense, the art of the improbable, understood as the task of coexisting in our not-so-big *sphäira,* also involves thinking about and reinventing technology because, as we have argued extensively in this work, *our human condition is irreversibly a technological condition*. Nevertheless, we assume that this process of thinking and (re)invention apparently needs to be both familiar and strange to technology as a mode of unveiling since this "change" requires to be similar enough to

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505 Sloterdijk, P., *Atmospheric Politics*, in Latour, B., Weibel, P. *Making things public.* p. 944
506 Rockström, J; Steffen, WL; et al. (2009), "Planetary Boundaries: Exploring the Safe Operating Space for Humanity", Ecology and Society, 14 (2): 32
507 Sloterdijk, P. *Bubbles*, p. 24-27.
508 Sloterdijk, P. *In the World Interior of Capital*, p. 3.

avoid being entirely rejected and strange enough to show a distinct route for our civilizational *status quo*[509].

In order to give further indications of this (un)familiar art of the improbable, we will take the previous concepts developed in this text, along with others that are more "future-oriented" and scattered through the *oeuvre* of Sloterdijk, also offering new interpretations on themes that are only indicated but not fully developed in his work. However, before doing that, we will sketch two brief clarifications regarding "how" Sloterdijk usually approaches these issues, or what can also be called his philosophical *pathos*. We will do this by recalling two metaphors that Sloterdijk uses to characterize some differences in his thinking from previous elaborations found in the history of philosophy, which, in our view, take a Nietzschean inspiration for both.

The first point regards the relationship between philosophy and the physiognomy of epoch[510], which Sloterdijk refers to with the German term *Zeitgeist*. The primal modern philosophical attitude towards it can be recalled through the owl's behavior, the animal that symbolizes philosophy in Hegel's conception.[511] Setting aside all the complex interpretations that could be offered regarding the importance of this metaphor for Hegel's philosophy, what Sloterdijk claims is that the kind of attitude that philosophy usually takes towards the present is through a reminiscence of the past, in a kind of melancholic search for absolute truths in a retrospective movement, which only comes when the day is gone.

Perhaps our threatening contemporary condition, which is struggling with the lack of possibilities for (re)imagining futures, needs to rely on something more akin to the attitude of the sparrow. Contrary to the owl, sparrows symbolize the mystery of what is still to come in the morning, drawing moving horizons and momentary inclinations, as there is no more ground or time for absolute knowledge about reality. The philosopher, then, accepts internalizing the tensions and contradictions of

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[509] "Because the essence of technology is nothing technological, essential reflection upon technology and decisive confrontation with it must happen in a realm that is, on the one hand, akin to the essence of technology and, on the other, fundamentally different from it." Heidegger, M. *The question concerning technology and other essays*, p. 35.

[510] Sloterdijk, P. *Kopernikanische Mobilmachung und ptolemäische Abrüstung*, p. 8 - 9.

[511] "When philosophy paints its grey in grey, one form of life has become old, and by means of grey it cannot be rejuvenated, but only known. The owl of Minerva takes its flight only when the shades of night are gathering." Hegel, G. W. F. *Elements of the Philosophy of Right*, p. 20.

the current state of affairs and exercises a voluntary self-intoxication, which is followed by an immunology of a culture.[512]

The second metaphor comes from an interview[513] in which Sloterdijk was asked about the role of critique in contemporary philosophy[514], which has culminated in a history of intellectual debates with the exponents of the Frankfurt School, namely Habermas and Honneth[515]. In that interview, Sloterdijk distances himself from producing philosophy as a form of critique, relating the task of critique to an attempt to produce *autonomy by negativity*. Despite the time difference between this interview and the publishing of the *Critique of the Cynical Reason*, what we can observe is a continuity in his diagnostic as an emptying of critical theory by its lack of potency. The critique is understood as a form of illusion since individuals are trapped in the hope of gaining a kind of sovereignty by refusing reality, as if it is possible to refuse the spill consequences of the current state of affairs by separating those who are alienated and who hold a critical position towards society. Sloterdijk's diagnosis is that this position, in the end, can result in the breeding of helplessness and isolation[516].

Consequently, we see that Sloterdijk tends to adopt a philosophical position much more influenced by authors like the late Foucault, Deleuze, and Nietzsche, in the sense that an alternative form of critical attitude towards the world would result in the creation of concepts that can enable the practice and affirmation of the self through the construction of "associations, organizations, solidarizations, collective actions: all of the things that are operative"[517]. In this sense, we see a coherent position with our later interpretation of the rejection of miserabilism from philosophical anthropology[518] as Sloterdijk advocates for a theoretical position of philosophy as an affirmation and production of spaces of coexistence[519].

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[512] Cf. Sloterdijk, P. *Essai sur la intoxication volontaire*

[513] Just as a brief note, it is important to remember that Sloterdijk has already given hundreds of interviews and sees them as a kind of subgenre of the essay. Sloterdijk, P. *Selected Exaggerations*, p. ix.

[514] Schinkel, W. and Noordengraaf-Eelens, L. (org). *In Media Res*, p. 187.

[515] Couture, J-P. *A public intellectual* in Elden, S. *Sloterdijk now*, p. 96-113.

[516] Of course, one can rightly argue here that Sloterdijk raises very shallowy what is the role of philosophy regarding critical theory, considering the variety of approaches and depth of arguments regarding the former.

[517] Schinkel, W. and Noordengraaf-Eelens, L. (org). *In Media Res*, p. 187.

[518] Section 5.5.4. of the present work..

[519] Even though philosophy cannot "produce" these spaces by itself, we understand that a philosophical perspective that points out the importance of this attitude already contributes indirectly to this process of creation.

With this brief philosophical temperament that complements the conceptual framework developed in chapters 3, 4, and 5, we can now wrap up some arguments developed about the contemporary challenges of taking technology as a philosophical question[520], particularly if we take the empirical turn as the dominant perspective in the contemporary philosophy of technology. This recap will help us understand more precisely what we mean here by an "art of the improbable" as we search for contributions that Sloterdijk's thinking can offer to contemporary issues regarding technology.

Firstly, we can recall that the empirical turn in the philosophy of technology has neglected the problematization of the unique biological condition of humans, which is characterized by a mode of openness to the world through technology. This lack of consideration can lead to the assumption that the human condition, as technological, is merely a result of "chance." However, technological artifacts, which are ubiquitous in our lives today and mediate them on a micro-scale, are not present "by chance." as they are the result of a complex evolutionary history in which technological transformation of the environment played a crucial role. Therefore, understanding technology as an accidental byproduct ignores the intimate relationship between scientific theories on human evolution and the use of artifacts, and all the further complex philosophical debates that can be triggered by this argument, as we have explored extensively in Chapter 4.

We can also claim that by investigating technology exclusively in terms of the local contexts of the use of technical artifacts, the empirical turn fails to open a horizon for questioning technology as a planetary expression of the mode of existence of human beings. This mode of existence, which unfolds the planet in a predatory and exploitative manner, dramatically changes the possibilities of the existence of present and future societies. The micro-scale approach seems to be insufficient for analyzing the global context in which we are inserted today, known as the Anthropocene. To fully question technology nowadays, it is necessary to consider the Anthropocene as an "absolute boundary"[521], that is, the unavoidable planetary result of human activity mediated by technology.

The exclusivity of micro-scale analyses of forms of technological mediation additionally presents a significant problem when considering the global

[520] Section 2.5 of the present work.
[521] Sloterdijk, P. *You must change your life*, p. 451.

arrangement of power relations and their interaction with the local contexts of artifact use. This micro-analytical approach tends to depoliticize technology, ignoring the dynamics of power that shape and are shaped by technological use. A clear example of this is artificial intelligence. Analyzing AI only in terms of its local and immediate application disregards the global political and ethical implications of its development and implementation.

The three points discussed seem to have a non-foundationalist analysis of technology at their roots. While the philosophy of technology focuses exclusively on the analysis of artifacts and their impacts on the micro-scale of users, it ends up reducing the philosophical questioning of technology to a form of controlling the undesirable side-effects of technology development. Again, we reinforce the position that analyzing technology in its empirical counterpart is not problematic by itself. Nevertheless, by discarding totally a transcendental perspective, such analysis may avoid addressing several important philosophical questions that appear particularly relevant in our planetary age.

However, it will become clear that we will not explicitly address the question of the empirical turn, for example, by presenting Sloterdijk's concept of technology as a "better option" or as a kind of "next step" in the philosophy of technology. Our aim is that, since technology can be understood as a planetary phenomenon, we will offer developments in which a transcendental approach is still possible without discarding an empirical counterpart to it. In this sense, the concept of technology that we can grasp from Sloterdijk's thinking can be seen as having a "hybrid foundation". Sloterdijk constantly takes Heideggerian ontology in its ontical counterpart, and the concept of technology consequently also inherits this compound between, on the one hand, the conditions of possibility that allow our world to reveal itself as such and, on the other hand, the material, symbolic and psychopolitical configurations of our planetary-scale immuno-spheric constructs.

We will begin by addressing the technological aspect of the Anthropocene and Sloterdijk's response to it in terms of a possible homeotechnology. Secondly, we will sketch how Sloterdijk addresses the problem of our planetary existence, touching upon issues such as democracy, globalization, and climate politics.

Finally, we will point out a philosophical analysis of artificial intelligence by taking Sloterdijk's approach in *Wounded by Machines*[522].

6.1
The re-design of our technological modus vivendi in the Anthropocene

> The unnoticeable law of the earth preserves the earth in the sufficiency of the emerging and perishing of all things in the allotted sphere of the possible which everything follows, and yet nothing knows. The birch tree never oversteps its possibility. The colony of bees dwells in its possibility. It is first the will which arranges itself everywhere in technology that devours the earth in the exhaustion and consumption and change of what is artificial. Technology drives the earth beyond the developed sphere of its possibility into such things which are no longer a possibility and are thus the impossible. The fact that technological plans and measures succeed a great deal in inventions and novelties, piling upon each other, by no means yields the proof that the conquests of technology even make the impossible possible.[523]

As we have seen, the Anthropocene is one of the great themes in contemporary philosophy. Regarding its relevance and debates, several authors could be listed, such as Christophe Bonneuil, Jean-Baptiste Fressoz, Dipesh Chakrabarty, Bruno Latour, Clive Hamilton, Donna Haraway, Isabelle Stengers, Bernard Stiegler, and Timothy Morton, just to name a few. With this wide range of authors, a full spectrum of positions in the debate about the Anthropocene can be listed, such as humanists, post-humanists, ecomodernists, eco-feminists, eco-Marxists, and deep ecologists.

Nevertheless, our question here is to focus on the interface between the philosophy of technology and the ecological catastrophe. By handling this approximation, we can fulfill two relevant objectives with some concepts found in Sloterdijk's thinking. The first would be contributing to the empirical-transcendental debate in the philosophy of technology by developing a new perspective on it. Taking both a transcendental characterization of technology and highlighting fruitful directions for the design of technological artifacts, we aim to show that thinking about the planetary aspects of the Anthropocene requires new modes of framing current debates in the philosophy of technology, such as the opposition between transcendental and empirical. In order to evade the "still dominant micro-level analyses of concrete artifacts and particular use contexts favored and promoted by the empirical

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[522] Sloterdijk, P. *Not saved - Essays after Heidegger*, p. 217-236.
[523] Heidegger, M. *The end of philosophy*, p 109.

turn since the 1990s"[524], the Anthropocene calls for a reorientation of our *planetary mode of existence.* This reorientation seems to give a new imperative for the empirical analysis of technologies as we need to understand their effects on a terrestrial scale. Simultaneously, a transcendental characterization of technology must orient itself to the planetary limits that we are reaching with our mode of existence, as the empirical also plays a central role in the possibilities of rearranging the socio-technological contexts we create in the light of the Anthropocene. As we develop here, the concept of technology found in Sloterdijk's thinking could be a candidate for this reframing of the deadlock opposition between the empirical and the transcendental.

The second objective is interpreting the Anthropocene explicitly in its technological dimension since the literature does not always address this perspective on the theme[525]. Moreover, when this approach is held, we frequently find developments with naive intuitions about the concept of technology itself - like the geoengineering endorsers, as they take a position that could be addressed as a "planetary instrumentalist" one. As discussed by Hamilton[526], there are several examples and the consequent ethical and political questions regarding the Promethean trait of climate control. Taking it in a metaphysical sense, geoengineering appears as the modernist sole affirmation of planetary technologies as will to power, since what is at stake is the illusion of a whole earth system's control through technological intervention mechanisms. These ideas appear as modern as the utopian plans of terraforming Mars held by Silicon Valley billionaires to "get out" of the ecological catastrophe problem[527].

So, in order to explore the interface of the philosophy of technology and the Anthropocene in a more complex mode and to fulfill those two current objectives, we will offer the characterization of the Anthropocene as a *Techno-Anthropocene* in the light of Sloterdijk's thinking and show how *homeotechnology* is a possible approach to this new planetary condition.

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[524] Lemmens, P. *Thinking Technology Big Again. Reconsidering the Question of the Transcendental and 'Technology with a Capital T' in the Light of the Anthropocene*, p. 183.
[525] A good review on the theme can be found at Lemmens, P. *The Entanglement of Technology and Nature* in Swiestra, T. et al. *The Technical Condition*.
[526] Hamilton, C. *Earthmasters: The Dawn of the Age of Climate Engineering*
[527] A discussion about it is done in: Coeckelbergh, M. *AI Ethics*, p. 183-202.

6.1.1
The Techno-Anthropocene

Unlike geoengineering endorsers, Sloterdijk offers a diagnosis in which modernity in its will to "control nature" is taken as part of what needs to be questioned.[528] A notable example is when he analyzes how modernity's mode of existence depends upon the possibility of moving and transforming the environment, as stated in the concept of *kinetic expressionism*[529].

With the notion of kinetic expressionism, Sloterdijk explores our imperative towards movement, or modernity as an epoch in which the concept of freedom is basically understood as a form of an endless mobilization of the real, an exaggeration that becomes a value in itself - i.e., we create movement in order to have more movement. It is important to highlight that "movement" here is understood more strongly in its Greek root - *kinesis* - not only as a change in location over time of bodies but also as a heteronomic change of a system state. This expression, of course, comes from *Infinite Mobilization*, as we explored in Chapter 3. In it, Sloterdijk provides an interpretation of a critical theory taking as a central concept this pursuit of the endless mobilization of reality - very similarly to Heidegger's notion of enframing - as *modernity's mode of existence,* which then should be addressed as an attempt to renew critical theory diagnosis[530]. In this way, technology is also understood on a planetary scale as a motor, in the sense of the core that enables the transformation of resources into mobility and state change of everything we touch.

> We can no longer imagine a freedom that does not always also include the freedom to rev our engines and accelerate, the freedom to move to the most distant destinations, the freedom to accelerate, the freedom to exaggerate, the freedom to waste, indeed, lastly, the freedom to detonate explosives and destroy ourselves.[531]

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[528] Nevertheless, Sloterdijk does not evade from discussing the question of the Anthropocene in a positive manner, in the sense that he addresses frequently what we should do to tackle our challenges, for example with his debate on homeotechnology (Sloterdijk, P. *What happened in the 20th century?*, p. 1-23.) and co-immunism (Sloterdijk, P. *You must change your life*, p. 442-452). In the next session we will address these issues in more detail.

[529] Sloterdijk, P. *What happened in the 20th century?*, p. 13

[530] It is worth mentioning that when Sloterdijk uses the term *kinetic expressionism* here, he has already distanced himself from critical theory. This is confirmed by the interpretation of the text *A Critique of Extremist Reason*, when Sloterdijk addresses the thesis of Badiou of the 20th century marked by a passion for the real, and characterizes his Spheres project as a "theory of uplift". Sloterdijk, P. *What happened in the 20th century?*, p. 55-81.

[531] ibid, p. 13.

It is also possible to see how words like *sustainability* appear for Sloterdijk as the "central semantic symptom of the current cultural crisis"[532]. Humans feel a tension they have never experienced before since their survival is clearly at stake. Nevertheless, there is no clear idea of how to diagnose this situation in more depth. Because the symptoms of this crisis can be felt almost everywhere, several scattered lexicons are popping up, be it in economics or artistic interventions. This point is quite noticeable in the following excerpt.

> The word 'sustainability' is undoubtedly the central semantic symptom of the current cultural crisis: it crops up everywhere in the speeches of responsible parties like a neurotic tic pointing to unresolved tensions in their drive systems. It is a reaction to an unease that undermines our existence in a technological civilization with an increasing feeling of untenability. This feeling is inseparable from the realization that our 'society' – to use the dubious term without any further interrogation – is now finding itself in a struggle for self-preservation that will demand unusual achievements of us.[533]

With this debate about the crisis we are inserted in, some questions that arise are: But exactly *who* is responsible? Can we make such generalizations? Should we call it the Eurocene because what is at stake is the expansion of a mode of life engendered by American-European expansion and colonization of how to deal with nature? Or should it be the Capitalocene, since it is the responsibility of capitalism - this mode of production that enabled such a state of affairs?

Our aim here is not to solve the court case[534] (who is responsible?), but to call it the *Techno-Anthropocene* to highlight its technological dimension – and to relate it to the concepts of *habitability* and *design*. To understand this proposalbetter way, we can move to the interpretation of the following excerpt: "Thus the concept of the "Anthropocene" includes nothing less than the task of testing out whether the agency of "humanity" is capable of transforming something e-ject into a pro-ject, or *transforming an emission into a mission"*.[535]

This difference between an e-ject and a pro-ject can be made by characterizing both terms. Regarding the former, we can analyze it through the concept of externality, for instance[536]. The classic liberal economic theory, anchored by the

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[532] Sloterdijk, P. *Stress and freedom*, p.6.
[533] idem.
[534] Sloterdijk, P. *What happened in the 20th century?*, p. 1-2.
[535] Ibid, p. 6.
[536] The term was first described by Arthur C. Pigou in Pigou, Arthur Cecil. 1920. *The Economics of Welfare.* 4th ed. London: Macmillan

marginal-utility maximization presupposition, takes the finality of all commercial trades done by economic agents (consumers and producers) as the efficient allocation of goods and services by defining mainly the price and quantity of a specific market. The way economic theory most commonly approaches the environmental impacts of economic activities is by adding to the previous framework the concept of *externality*. This concept aims to deal with external impacts (e.g., environmental pollution) as they can "disturb" the efficient allocation of resources that economic trades produce by adding ad-hoc mechanisms (such as pollutant limits or specific taxes for environmental impacts) to lead the market back to equilibrium. As we can see, at the center of economic theory, there is the approach of dealing with anthropogenic environmental consequences as "e-jects", or externalities that can be incorporated into the system by a *a posteriori* analysis, in which the undesirable outcomes of economic activities are leveled by their potential to unbalance the economic *status quo* - maximization of producers profit and consumers utility. Additionally, externality has become the core theory in dealing with the environmental question in economics, also finding endorsers for even more widespread use in social sciences[537]. Curiously enough, we see how the concept of externality deals with the Anthropocene in a cybernetic manner, as the lack of regulation can be fixed by the insertion of a correction mechanism through feedback loops[538].

Taking the Anthropocene as a pro-ject (instead of, until now, an e-ject) raises the question of how we can understand the human effects on the environment as a central topic. Questioning the aim of efficient allocation *as an end in itself*, the planetary boundaries in which we are constrained challenge a shift in our own presuppositions of how to think about the sciences responsible for the management of the earth system. Then, our question drastically changes from an environmental crisis that needs to be tamed by techno-scientific mechanisms, in the sense that the former needs to adapt itself into the latter, into a framework where our paradigm of techno-scientific practices needs to be totally questioned and reinvented. Following this claim, we can ask further: What is the role of science in the Anthropocene? How can we do science *in* and *for* the Anthropocene?[539] Is it possible to reinvent

[537] Fairbrother, M. (2016) Externalities: why environmental sociology should bring them in, *Environmental Sociology*, 2:4, 375-384,
[538] In this sense, we are understanding cybernetic as something akin to what is framed by Heidegger in the essay *The end of philosophy and the task of thinking*.
[539] An interesting work that opens investigations in this direction is: Renn, J. *The evolution of knowledge: Rethinking science for the Anthropocene*.

our technological being-in-the-world without simply denying technology but *composing* it with new practices and perspectives?

It is also curious how this reference to the terms "e-ject" and "pro-ject" alludes to Epimetheus and Prometheus; two central characters of a myth deeply responsible for how we understand technology until today. The former is clearly linked to a prognostic intelligence and the latter to the blind thrust forward, which only discovers the collateral damage in hindsight. Hence, interpreting the Anthropocene as a pro-ject alludes to a new kind of intelligence that we need to cultivate in our age an intelligence that does not only work with the past or take our experiences as an absolute source of knowledge, but an intelligence that is thought in the direction of the future, taking our horizon of action aimed at the possibility of dwelling on the Earth. This ability is related to what Sloterdijk refers to as a *prognostic intelligence* or the future of our world, with the Anthropocene as an autodidact experiment on life and death[540], since the opportunity to learn from past mistakes is less and less available nowadays.

Another crucial point to note about Sloterdijk's take on the Anthropocene is the realization that the idea of the planet as a passive backdrop is no longer valid[541]. This shift has come about ironically through our own advancements in science and technology. As Sloterdijk addresses:

> The earth as a global object, previously lifted and hidden in the darkness of our closeness to it, has since been brought before itself through a series of technically historical "levers" and "spins"; it now sees itself with artificial and natural eyes on. This changes all the premises of the historical game. What was once the scene becomes the theme of the plot. What served as a background comes to the forefront. What was present as a raw material emerges as a product.[542]

Since humanity, in its evolution as a planetary species, has deeply entangled itself with nature, as Latour also claims[543], it is no longer possible to separate this interweaving from the failure of "dominating nature" by technology and science, which now makes itself more and more evident with the advent of the Anthropocene. Or, as Sloterdijk claims using the metaphor of the Earth as a cosmic vessel:

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[540] Sloterdijk, P. *What happened in the 20th century?*, p. 12.
[541] ibid, p. 9.
[542] Sloterdijk, P. *Infinite Mobilization*, p. 140.
[543] We will further explore these issues in section 6.2.2 through the work Latour, B. *Facing Gaia*.

"Human being-in-the-world, of which twentieth-century philosophy spoke, is thus revealed as being-on-board a cosmic vessel that is susceptible to failure."[544]

With this description of Sloterdijk's diagnosis regarding the Anthropocene, we will now address one of the main propositions present inside Sloterdijk's thinking on technology: the concept of homeotechnology. This attempt to build a more "propositive" claim about technology appears firstly in the last section of *The Domestication of Being,* where Sloterdijk starts to question whether it would be possible to think about a post-metaphysical mode of planetary existence *through* technology.

The discussion about other possible ontological foundations of technological developments resides in Sloterdijk's claim that "Technology has not yet spoken its final word"[545]. This claim implies that despite technology being understood as a mode of unveiling, this knowledge would enable us to ask for alternative modes of associating values and modes of (co)existence with the concept of technology itself. This is possible because one of the main influences regarding the technological paradigm nowadays for Sloterdijk is Gottard Günther, a defender of the view that our modern technology exists under the domain of information - or informed matter - and has broken the barriers of a classic monovalent ontology and its consequent bivalent logic[546].

This would imply a difference between *allotechnics* (metaphysical) and *homeotechnology* (post-metaphysical) technology. As Sloterdijk claims:

> We become witnesses to the fact that with intelligent technologies a non-domineering form of operativity is emerging for which we propose the name 'homeotechnics.' By its nature, homeotechnics cannot desire anything wholly different than that which the 'things themselves' are or can become of their own accord. [...], because it has to do with really existing information, homeotechnics only progresses on the path of the nonviolation of what is present. It apprehends intelligence intelligently and produces new states of intelligence. It can only be successful as non-ignorance vis-à-vis embodied information. Even where it is initially employed as egotistically and regionally as any conventional technology it must draw on co-intelligent, co-informative strategies. It has the character of cooperation rather than that of domination, even in the case of asymmetrical relations.[547]

[544] Sloterdijk, P. *What happened in the 20th century?*, p. 12
[545] ibid, p. 20.
[546] Sloterdijk, P. *Not saved*, p. 136-137.
[547] ibid, p. 144.

However, we will not aim here to discuss homeotechnology by Günther's transclassic logic, but we will take another way of interpreting it, which is more suitable to the context of the Anthropocene. This interpretation will be made through inquiring about homeotechnology as biomimetics since the ecological crisis challenges the current way we mobilize the real through technology.

6.1.2 Homeotechnology as biomimetics

Sloterdijk has pointed out several times that biomimetics is related to what he understands by homeotechnology and a possible alternative for dealing with technology, regarding the context of the Anthropocene[548] [549]. However, these are really brief mentions without further elaboration, leaving us with the task of interpreting it.[550] This gap is also an opportunity to continue the earlier investigation into technological perspectives that simultaneously disclose local issues (new modes of designing technical artifacts) and the planetary condition that challenges the reinvention of our technological *modus vivendi*.

As stated by several authors[551], Benius, in his seminal work, defines biomimicry or biomimetics as ''a new science that studies nature's models and then imitates or takes inspiration from these designs and processes to solve human problems.''. This definition highlights key issues when we philosophically inquire about biomimetics, which are the presuppositions about terms such as nature, imitation, human problems, design, and science, as scientists and engineers largely use these concepts without questioning them. When do we think about biomimetics as a "new science", what do we mean? When we seek to imitate nature, what is really at stake? These are some questions that we will also address in this section through Sloterdijk's perspective.

Many technological innovations illustrate how nature serves as a source of inspiration, such as the Japanese high-speed trains with their aerodynamic design

[548] Sloterdijk, P. *What happened in the 20th century?*, p. 20.
[549] Sloterdijk, P. *Neither Sun nor Death*, p. 326-330.
[550] A work with a similar endeavor of this section can be found in Van Der Hout, S. (2014). The Homeotechnological Turn: Sloterdijk's Response to the Ecological Crisis. *Environmental Values*, *23*(4), 423-442.
[551] Blok, V., Gremmen, B. *Ecological Innovation: Biomimicry as a New Way of Thinking and Acting Ecologically*, p. 204.

which mimics the kingfisher bird's anatomy[552]. The creation of algorithms like as Neural Networks or Ant Colony Optimization are also well-known examples often cited in the literature[553]. All of these kinds of development receive reasonable attention today by applied science research, creating a true amalgam of practices with several names, including biomimicry, biomimetics, bionics, bioinspired design, permaculture, ecological engineering, and biology-inspired engineering[554].

As we see in the work of authors who research the philosophy of technology and the philosophy of biology, biomimetics can be investigated to unfold questions such as: How can nature's observation really change our way of thinking about technology? Could we have a relationship with nature that is more than the extraction of solutions to engineering and design issues? Can biomimetics help us (practically and theoretically) with the question of the Anthropocene? What are our conceptual and normative claims underpinning this approach?

In order to unpack the notion of biomimetics we will first discuss the notion of "imitation of nature" using some concepts present in the history of philosophy. Consequently, this will lead us to revisit the concept of nature to discuss the role of biomimetics in the Anthropocene.

One of the most known claims about imitation (*mimesis*) is expressed in Aristotle's Book 2 of *Physics*, in which we find the well-known thesis that "technics imitates nature"[555], as expressed in distinct contexts by Plato and Democritus[556]. However, such a formulation is clearly attached to the context of *Physics* and the whole Aristotelian philosophy. Moreover, it does not seem to be the case that Aristotle is stating that the *only* possibility of technology is the perfect imitation of nature since, in this process, chance and human creativity are also essential factors, and there are many other moments in Aristotelian philosophy in which the question of *techné* is discussed[557].

With those observations about the context of the claim that "technology imitates nature", we can pinpoint one particular interpretation of it. Considering the

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[552] https://asknature.org/innovation/high-speed-train-inspired-by-the-kingfisher/
[553] https://www.polytechnique-insights.com/en/columns/science/algorithms-a-biomimetic-approach-to-performance-and-nuance/
[554] Gerola, A., Robaey, Z., & Blok, V. What does it mean to mimic nature? A typology for biomimetic design. *Philosophy & Technology*, *36*(4), 65.(2023)
[555] Dicks, H. *The biomimicry revolution*, p. 81.
[556] Dicks, H. *The biomimicry revolution*, p. 24-30.
[557] On "Techné" and "Episteme" in Scharff, R. and Dusek, *Philosophy of Technology - The technological condition, an anthology*, p. 19-24.

whole Aristotelian philosophical system in which the teleology of nature and human existence has both a central aspect, the main point about the imitation operated by technology would be the refutation of the materialist thesis that nature itself would be devoid of purpose (*telos*). This claim makes sense if we observe that Aristotelian philosophy is simultaneously compromised with a natural philosophy that derives from metaphysical categories systematically, in which the lack of final causes and the existence of void (e.g., in the atomist framework) would run in an opposite direction. Taking this conceptual arrangement into consideration, according to Schummer, a more accurate interpretation of technology as an imitation of nature would be that "human technology imitates natural teleology on the general level of directivity and purposiveness"[558]. Consequently, if both human technology has one of its characteristics a final cause[559] and technics imitates nature, nature itself would also have directivity and purposiveness.

Alternatively, the mechanistic approach of modern science and technology represents a rupture with the ancient mode of understanding nature, as can also be observed in authors like Hannah Arendt[560]. This also is coherent with Sloterdijk's understanding of modernity as a new mode of building technological immunospheres since, with the scientific revolutions of the 17th century, old metaphysical systems could not hold a cosmos together anymore as a unified theological-cultural construct[561]. As the real presents itself to us as a never-ending source of

[558] Schummer, J. *Aristotle on technology and nature*, p. 4.
[559] As it can be seen in the doctrine of the four causes discussed in book 2 of the *Physics* and in the book 5 of *Metaphysics*.
[560] Arendt places this point of rupture in a different historical moment, as we see in this important excerpt. "The first stage [of modern technology's development], the invention of the steam engine, which led into the industrial revolution, was still characterized by an imitation of natural processes and the use of natural forces for human purposes, which did not differ in principle from the old use of water and wind power. Not the principle of the steam engine was new but rather the discovery and use of the coal mines to feed it. The machine tools of this early stage reflect this imitation of naturally known processes; they, too, imitate and put to more powerful use the natural activities of the human hand. But today we are told that "the greatest pitfall to avoid is the assumption that the design aim is reproduction of the hand movements of the operator or laborer.".
The next stage is chiefly characterized by the use of electricity, and, indeed, electricity still determines the present stage of technical development. This stage can no longer be described in terms of a gigantic enlargement and continuation of the old arts and crafts, and it is only to this world that the categories of homo faber, to whom every instrument is a means to achieve a prescribed end, no longer apply. For here we no longer use material as nature yields it to us, killing natural processes or interrupting or imitating them. In all these instances, we changed and denaturalized nature for our own worldly ends, so that the human world or artifice on one hand and nature on the other remained two distinctly separate entities. Today we have begun to "create," as it were, that is, to unchain natural processes of our own which would never have happened without us, and instead of carefully surrounding the human artifice with defenses against nature's elementary forces, keeping them as far as possible outside the man-made world, we have channeled these forces, along with their elementary power, into the world itself." Arend, H. *The Human Condition*, p. 147-148.
[561] As is explored in section 5.4 of the present work.

mobilization and manipulation, it is not surprising that modern thinking does not interpret nature as having its own directivity and purposiveness.

Due to this never-ending process of endless exploitation and its consequences, contemporary civilization has found the necessity to think of technology in a way that it can be fully integrated into natural processes and ecosystems. In our view, this is highly related to Sloterdijk's claim that homeotechnology is biomimetical in the sense of building a cooperation with nature since we can analyze what it means to think about a new "directivity and purposiveness" of our immuno-spheric constructs nowadays.[562] Next, we will sketch two different forms that biomimetics can be used to redefine our immuno-spheric constructs.

The first mode is when we pay attention to the way technological systems[563] could be reoriented to be increasingly more attached and symbiotic with natural processes.[564] With the objective of taking nature as a model, the frontiers of what is organic and what is artificial would become increasingly more fuzzy. Technologies are developed to operate in a circular way through a series of interconnected processes that recycle resources and maintain balance in ecosystems, such as biomaterials, and the design of biological organisms serves as models to develop systems that are more efficient in terms of energy-saving and structural design. Taking those practices on a planetary scale - along with the required rearrangement of economic systems - could lead us to talk about a circular bioeconomy, which could be defined as:

> The ought to minimize the depletion of resources (for example, phosphate rock, fossil fuels or soils), encourage regenerative practices (for example, restoring fish stocks), prevent the loss of natural resources (for example, carbon, nutrients and

[562] Since we claim that the age of the Anthropocene we would need much more than bio-inspired solutions but a real the redesign of our immuno-spheres to a new perspectives, Sloterdijk's approach to biomimetics seem to be more related to a eco-centric approach as discussed in Blok, V., Gremmen, B. *Ecological Innovation: Biomimicry as a New Way of Thinking and Acting Ecologically*,

[563] This is somehow related to the first, second and third mode that Mitcham described technology (technology as the set of artificial objects surrounding us, technology as a specific type of knowledge, and technology as human-designed processes). Cf. section 2.1 of the present work).

[564] This is somehow present in authors that claim a total interwoven between the artificial and the natural. One example of this position could be Latour, as he clearly rejects the idea of "environmental protection" as if we could separate ourselves from nature. Although Latour does not talk explicitly about biomimetics in his works, there is a praise for a form of *compositionism* when we observe his reading regarding how our future is to make our interwoven between human and non-human actors more explicit. "Environmentalists say: "From now on we should limit ourselves." Post-environmentalists exclaim: "From now on, we should stop flagellating ourselves and take up explicitly and seriously what we have been doing all along at an ever-increasing scale, namely, intervening, acting, wanting, caring." In one case, the return of unexpected consequences appears as a scandal (which it is for the modernist myth of mastery); in the other, they are part and parcel of any action." Latour, B. *Love your monsters*, p. 25

> water) and stimulate the reuse and recycling of inevitable by-products, losses or wastes in a way that adds the highest possible value to the system.[565]

Although we recognize the importance of addressing the "technical solutions" necessary to create a more renewable flow of goods and services with minimal negative impact on our ecosystems, it is clear that more is required. A deeper examination of the concept of technology underlying biomimetic discourses, which view nature as a reservoir of bio-inspired innovations and developments like the circular bioeconomy, reveals in them an inescapable ecomodernist approach[566]. Biomimetics and the circular bioeconomy, by focusing excessively on techno-fixes, fails to acknowledge that technology cannot be reduced to a set of tools or processes. Instead, as the human condition can be taken as a technological condition, the question of new forms of coexisting in the Anthropocene should be related to how we transform the spaces we dwell in through complex immune systems, which carry with them symbolic, cultural, and psychopolitical aspects.

Consequently, the second way in which biomimetics can redefine our immuno-spheric constructs can be grasped if we explore the concept of *planetary co-immunism* or *general immunology*[567]. As the ecological crisis has shown us the absolute limits of humanity's expansion, economic-political systems must operate through a global immunological system, in the sense that there must be an organic coordination of the parts considering the survival of the whole. Regarding the current lack of co-operation with Earth's biosphere, Sloterdijk claims that:

> As long as the Earth and its biosphere are conceived of as an irreplaceable singularity, the exploitative behavior of modern expressive and comfortable civilization must seem like unpardonable irrationality. The way human beings have treated the planet is then comparable to a disaster film in which rival mafia groups engage in a firefight with high-caliber weaponry on board a plane at 12,000 meters.[568]

In this sense, biomimetics could aid us in stating more clearly that, in a planetary age, we need more than "sustainability" or "technological innovations". That would imply thinking about technology with design methodologies focused on self-

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[565] Muscat, A., de Olde, E.M., Ripoll-Bosch, R. *et al.* Principles, drivers and opportunities of a circular bioeconomy. *Nat Food* **2**, 561–566 (2021).
[566] Veraart, R., Blok, V. & Lemmens, P. Ecomodernism and the Libidinal Economy: Towards a Critical Conception of Technology in the Bio-Based Economy. *Philos. Technol.* 36, 18 (2023).
[567] Sloterdijk, P. *You Must Change Your Life*, p. 442-452.
[568] Sloterdijk, P. *What happened in the 20th century?*, p. 19.

regulation and self-renewal of the earth system, not only from an *ecological* perspective but also from *ethical* and *political* ones. How can we think about ethics and politics while keeping these challenges in mind? What could be these horizons of new modes of existence if we think about technology on a planetary scale? How can we move from local and "exclusive" immunization strategies to global and "inclusive" immunization strategies?

Sloterdijk's perspective of a new relationship between humans and nature through technology seems to pose more questions than answers. We could then address two issues that are important to stress regarding Sloterdijk's perspective on homeotechnology. Firstly, Sloterdijk's greatest effort seems to be exploring new forms of framing current debates, in which new concepts should play a role in changing not only the syntax but also the *grammar of our behavior*.[569] Secondly, Sloterdijk carries a thrust in the auto plasticity of the human being that happens through its self-domestication,[570] as technology is understood not only through the spaces which we design but also as responsible for the spaces that we are designed by, indicating a co-shaping between humans and technology.

6.2
Planetary (co)existence

In order to continue the debate about the relationship between a necessary *art of the improbable* in our planetary civilization, we can focus more clearly on the role that political philosophy in Sloterdijk's thinking would have in it[571]. First, we will deal with the intersection between democracy and technology. Second, we will discuss the interface he builds between the Anthropocene and globalization.

6.2.1
Technology and the possibility of politics

[569] https://www.dw.com/en/how-do-we-change-peter-sloterdijk-environment-coronavirus-on-the-green-fence-climate-change/a-53533840
[570] Sloterdijk, P. *What happened in the 20th century?*, p. 33-34.
[571] We believe that for a broader discussion of the topic (a possible political philosophy in Sloterdijk`s thinking) a much wider revision would be necessary, including works such as *Rage and Time*, *Falls Europa erwacht, Die Verachtung der Massen, In the World Interior of Capital and What Happened in the 20th Century?* However, we will just touch upon one approach towards it which has a more strict relation with the question of technology.

To explore the relationship between technology and politics in Sloterdijk's thinking, we can show parallels that we can find with the way he interpreted the debate about genetic engineering mentioned earlier in *Rules for the Human Park* and the discussion that he makes about the Anthropocene. In the former, his position seems to be that, since modern technology is an explicitation process, as we addressed before, it will inevitably happen that reality as such will progressively become explicit - or revealed in its causal chains to make it operable.[572] As technologies such as genetic engineering continue to advance, they become increasingly irreversible and ingrained in our society. Technology itself has a kind of inertial tendency for development if we interpret it as a mode of unveiling[573]. Consequently, it is imperative to engage in ethical and political debates about these complex issues, assuming that it is quite naive to believe that a group of actors is capable of stopping technological development through unilateral action.

If we assume that technological development will proceed as an inevitable explicitation process, the question now seems to be: Under which parameters will this explicitation be made? Who defines the criteria involved in this process? How are the various actors involved in this explicitation process? Questions about the political and ethical use of technology will remain restricted to a *petit committee* of experts or is it still possible to think about a democratic and open societal debate about those issues? Furthermore, in what language could this debate be possible?

Considering this explicitation process as an epochal movement - the drive that moves science and technology - Sloterdijk does not seem to consider the possibility of stopping technological development or hiding what was once revealed by science and technology in this progressive explicitation process.[574] Supposing that we cannot stop this movement, what should be avoided is that the issues regarding the possible uses of these technologies remain hidden between restricted committees, i.e., avoiding technocratic approaches. To denounce this route, Sloterdijk acts as a public intellectual who can trigger the public debate about technology and politics, serving as a kind of "open polemicist". This position is clearer if we remember his

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[572] For instance, in genetic engineering, the very structures of our genetic information and characteristics become not only visible, but become operable to some extent, as the advance of the so-called genetic therapy is advancing.

[573] Sloterdijk, P. *Foams*, p. 75.

[574] "… And this [anthropotechnic] explication, I repeat, is for us the technological and epistemological form of destiny [*Form des Schicksals*]. Because the human being is now understood as the *animal technologicum* , every further advance in technology for application to itself contains an inescapably binding *pro nobis*." Sloterdijk, P. *You Must Change Your Life,* p. 332.

stance on the necessity of triggering a national debate in the case of genetic engineering, as happened after the *Rules of Human Park* affair[575].

However, the position of an open polemicist should be interpreted as a clear influence of Nietzsche's notion of *polemos* or an attempt to show that that both scientific and political knowledge have an immanent aspect[576], as stated in the following excerpt: "The things in whose definiteness and endurance narrow human minds, like animal minds, believe have no real existence. They are but the flash and spark of drawn swords, the quick radiance of victory in the struggle of opposites".[577]

Of course, it seems difficult to reconcile the young Nietzsche`s discussion of the Greek issue of conflict (*agon*) present at large in the tragic *genre* with a direct defense of democratic debate about the political conflicts regarding technology. However, the main issue here is a recovery of the importance of the anti-dogmatic position regarding the interface between politics and technology *vis-à-vis* the possible agonistic character of knowledge production and political activity in the public arena.

Nevertheless, as is well known, Nietzsche was a fierce critic of democracy and communism, with political claims that align him more closesly with a defense of noble aristocracy and the importance of cultivating a *Bildung* that privileges the flourishing of individual liberty and creativity[578]. As discussed earlier in this text, Nietzsche's influence on Sloterdijk is easily noticeable, both stylistically and thematically, equally marked by undogmatic and wild appropriations, keeping in our view a thin balance that prevents Sloterdijk from being merely another "follower" of Nietzsche - such as making anachronistic defense of the master's position - although never losing the Nietzschean *pathos*. This also has connects with our previous thesis regarding Sloterdijk's eccentric position in the landscape of German

[575] As it was discussed in section 4.1 of the present work.
[576] We here characterize Nietzsche's immanent position on human knowledge as fundamentally rooted in his rejection of metaphysical truths. He dismisses the idea of objective, transcendental truths existing independently of human experience, arguing instead that truth is constructed through subjective perspectives and interpretations, a concept he terms "perspectivism." Furthermore, Nietzsche highlights the inseparable link between knowledge and power, asserting that what societies accept as truth is often dictated by those in power and serves their interests. Thus, understanding human knowledge necessitates an examination of the power structures that influence and shape our perceptions of truth.
[577] Nietzsche, F. *Philosophy in the tragic age of the Greeks*, p. 55.
[578] A text that deals extensively with this issue and confront Nietzsche's own position on democracy *with* a nietzschean reading can be found at: Costa Mattos, F. *Nietzsche, perspectivismo e democracia: um espírito livre em guerra contra o dogmatismo*.

political philosophy and the complex reception of Nietzsche by Critical Theory, such as by Habermas[579], for instance.

With the preceding brief developments, we have indicated how there is a Nietzschean influence on the way Sloterdijk relates technology with politics. Moving forward, we can focus more closely on how one of the issues regarding the relationship between politics and technology in Sloterdijk's philosophy is thematized in a text called *Atmospheric Politics*, which is concerned with the elaboration of premises and considerations of the atmospheric aspect of democratic communities and experiences. Sloterdijk recurs to his ontotopological concept of atmosphere, that allows him to develop the notion of *Stimmung* in Heidegger's philosophy. The concept of "breathable interiors" is a hybrid theorization that has its roots in an existential conceptualization of the mood that Dasein is always pervaded by in mediation with the world and the concrete and material conditions through which humans as space-creators modify their environment (*Umwelt*) to dwell in a significant totality.

Sloterdijk appears to assert that the potential for political activity within democratic regimes, when viewed through the lens of its long-range human evolutionary trajectory, fundamentally involves the transformation of the environment into a world, through a process that we explored in our work as *coming-into-the-world*. This transformation is not merely incidental but integral to the functioning and development of public spaces, in which the human being is understood as a *zoon politikon*. In this process, existing groups transform their spatiality through technologies that facilitate communication, enabling individuals to speak while ensuring that all other members of the group can hear. Sloterdijk refers to these spaces as "waiting rooms."[580]. As Sloterdijk claims:

> In other words, I am talking about the conditions of possibility that make democracy possible, but I am not addressing the subject in Kantian terms, according to which this political life form should be regarded as a by-product of citizens exercising their powers of judgment. Instead, I would claim that the conditions are an effect of "waiting power" - meaning both the ability to wait and the ability to let others wait. Furthermore, democracy is based on the proto-architectonic ability to build waiting rooms, not to mention the proto-political ability to disarm citizens.[581]

[579] About the current issue, one can consult: Giacoia JR, O. Nietzsche e a modernidade em Habermas. *Perspectivas*, São Paulo, v. 16, p. 47-65, 1993.
[580] Sloterdijk, P., *Atmospheric Politics*, p. 944, in Latour, B., Weibel, P. *Making things public*.
[581] idem.

The concept underscores the importance of technological mediation in fostering a shared public sphere where democratic deliberation and decision-making can take place. By transforming the environment into a world through the construction of immuno-spheres to support these interactions, democratic regimes create conditions that aim to promote transparency, inclusivity, and collective engagement. Moreover, the idea of "waiting rooms" suggests a temporal dimension to political activity. Just as individuals in a physical waiting room anticipate their turn or the next phase of a process, participants in a democratic regime are in a constant state of readiness for engagement and action, where this readiness is facilitated by technologies that ensure communication flows seamlessly and effectively throughout the group.

These waiting rooms are produced not only by architectural technologies, such as the specific design of buildings related to political activity, but also by discursive practices, rites, and writing technologies. Recurring to a hypothetical reading of an Aristotelian dialogue about the art of building cities, Sloterdijk thematizes the conditions by which *synoikismós* - the decision of scattered actors to hold themselves under the same shared laws - is possible[582]. These conditions are thought to be mainly due to a series of rituals that embed citizens with an ability that makes public space possible.

Instead of talking about courage (*andreía*) and self-control (*sophrosyne*), the two characteristics present in Plato's *Statesman* on the weaver metaphor, Sloterdijk uses the fictional "Aristotelian" construction[583] to discuss the members of the *agora* as producers and products of the double ability to be spectators and actors in this highly improbable space. This anthropotechnology of hearing and waiting while others are talking - and talking while thrusting that others will listen - is placed at the core of real democratic experiences. In these waiting rooms, actors are disarmed of despotic tendencies - or the tendency to act unilaterally, which can threaten the whole architecture of a public space.

Media and writing technologies also play a critical role in this technological process in shaping the conditions of possibility for democratic experiences. As Sloterdijk claims:

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[582] ibid, p. 947,
[583] ibid, p. 948,

> The essence of the written and representational media is that they allow users to manipulate the temporal axis thanks to which diachronic sequences can be transformed into synchronic images. [...]. One must accept that the idea that the art of writing (that is creating a reservoir or pool of language) is the cultural technique that has contributed the most to the emergence of democracy. By giving the spoken word a spatial reference, it forces even the most fleeting thing in the world to tarry with us a while longer than would be possible in the purely oral world.[584]

Then, the waiting power present in the democratic experiences of humanity seems to be interwoven with the history of technology, as those various examples mentioned are part of a long trajectory in building (or destroying) the conditions for politics. In other terms, the anthropotechnical feedback mechanism of discursive rituals, practices, along with the consequent self-domestication of the human as actors who can wait and listen, depends on the material history of building waiting spaces. Those spaces operate as greenhouses, allowing individuals to act in the Arendtian sense of the term only because they have passed through a long "history of disarmament" - if we understand this history as a long-range process of self-domestication that enabling individuals to live in increasingly larger groups[585].

As we have seen, Sloterdijk's link between technology and politics is closely related to action in an Arendtian sense, leading us to explore other concepts developed by Arendt and relate them to our previous discussion. The question of plurality for Arendt is a basic aspect of the human condition while humans are at the same time similar to each other - the improbable condition of human life in the long term is only possible through the formation of communities - and different to each other - while every human is distinct from any other that has existed or will exist. As Arendt affirms:

> The new always happens against the overwhelming odds of statistical laws and their probability, which for all practical, everyday purposes amounts to certainty; the new, therefore always appears in the guise of a miracle. The fact that man is capable of action means that the unexpected can be expected from him, that he is able to perform what is infinitely improbable. And this again is possible only because each man is unique, so that with each birth, something uniquely new comes into the world. With respect to this somebody who is unique it can be truly said that nobody was there before. If action as beginning corresponds to the fact of birth, if it is the actualization of the human condition of natality, then speech corresponds to the fact of distinctness

[584] ibid, p. 949
[585] As we have developed in section 3.4.

> and is the actualization of the human condition of plurality, that is, of living as a distinct and unique being among equals.[586]

This aspect of plurality is the ground and mode by which action and, consequently, political activity are possible if we understand the latter as the interaction between free humans deliberating and shaping together the destiny of the *polis*.

Consequently, it is also central to highlight what Arendt defines as a *common world*. Action is only possible if a common world is settled, which constitutes the public domain that leads to a minimum permanence - a minimal temporal stabilization of the shared meaning and references that can be thought of in terms of *common sense*[587]. Consequently, we observe that a common world serves as a condition for the participation of multiplese actors in a given issue, both because it is a *sine qua non* for it but also because it enables a different temporality of action when compared with the individual life expectancy of the actors: "If the world is to contain a public space, it cannot be erected for one generation and planned for the living only; it must transcend the lifespan of mortal men".[588]

As we can see, this "transcendence into a potential earthly immortality"[589] that a common world enables is deeply related to Sloterdijk's perspective on the construction of atmospheric premises for democratic experiences. As long as we interpret the history of democracies as a sequence of attempts and failures to construct common worlds where humans can interact and act collectively, this long-range process can also be understood as anthropotechnical. This perspective highlights that the development of political systems is intrinsically tied to the evolution of human technologies that shape and regulate social behavior. In this sense, building political systems involves a process of self-iteration and refinement of technologies through which human beings "tame themselves." This taming occurs by disarming individuals - reducing the potential for violent conflict - through the establishment of specific symbolic and material conditions. These conditions include creating legal frameworks, social norms, and communicative technologies that facilitate harmless coexistence and collaborative decision-making.

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[586] Arendt, H. *The Human Condition*, p. 178.
[587] As discussed in: ibid, p. 283.
[588] ibid, p.55.
[589] idem.

If we understand the Sloterdijkian approach to the question of the coming-into-the-world, we also see a parallel with Arendt's characterization of the common world. As Arendt characterizes it, "the common world is what we enter when we are born and what we leave behind when we die."[590] So, we can perceive that this condition of possibility has in its temporal structure a dependency on a being that can simultaneously *build it* and come *into it*. Similarly, as Sloterdijk claims:

> If one wishes to interpret in a contemporary way the manner in which human beings find themselves in the world, then one can proceed from the principle that human beings are adventist creatures - beings *to whom something comes* and yet *who are themselves the ones coming*.[591]

Assuming this double aspect of coming-into-world in which the world exists as such because it is *common*, it is crucial to ask about the maintenance of these "waiting rooms". What role does the design of artifacts play in safeguarding our public spaces from attempts to implode them? Can we consider parameters that our planetary coexistence cannot crumble by unilateral decisions powered by technologically effective agency, such as AI? Is it possible to build (cyber)spaces in which individuals are not just clustered in groups by different algorithmic eco-chambers that, in the end, tend to subvert any democratic space of waiting and listening practices? How can we create technologies that foster the dual aspect of citizens - being a spectator and an actor - and that individuals do not end as mere consumers of scroll-rolling feeds?[592]

6.2.2
Globalization and the Anthropocene[593]

Heading now to the issue of globalization and its relation to the ecological catastrophe, one of the crucial features of Sloterdijk`s thinking is his position in the debate on postmodern skepticism regarding modern philosophical and

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[590] idem.
[591] Sloterdijk, *Not saved*, p. 175. Our italics.
[592] Although we will not develop this argument here, we sense that there is a clear relationship between the material conditions of the internet and the kind of psychopolitics which is possible in this kind of structure. At the same time that public space is dependent upon technology, the latter seem to be attached to their own effects that possibly could destroy the former, if we pay attention to affects such as *ressentiment*. van Tuinen, S. *From Psycopolitics to Cosmopolitics*, in Elden, S.(Org.) *Sloterdijk Now*, p. 40.
[593] This section was already published in: Barros, M. F. de; Lemmens, P. Pavanini, M. *Peter Sloterdijk's Philosophy of Technology - From Anthropogenesis to the Anthropocene*.

technoscientific grand narratives, as Jean-François Lyotard understands them[594]. Taking a Nietzschean perspective, Sloterdijk rejects any resignation to small, local, and situated narratives, instead going in the opposite direction. For him, to face the challenge of dwelling in a planetary condition, we need even larger narratives to build global co-immunitarian structures. Nevertheless, we no longer need to fully trust those kinds of narratives as foundations to reveal a sort of hidden truth about the world, as modern thinking often required[595] .

As stated in *Globes*, Sloterdijk claims that globalization can be seen as a historical trajectory of grand proportions, unlike the limited concept formulated by contemporary sociology as something recent. The process of globalization would have already begun with Ancient Greek philosophy in the thoughts of Parmenides and Plato, with the "geometrization of the monstrous" - a metaphysical attempt to build a transcendent immune system - followed by the imperialist colonial expansion of the West in which "no point on the earth's surface, once money had stopped off there, could escape the fate of becoming a location"[596]. The progressive change from the metaphysical immunological paradigm to the technological one leads us towards the third and final moment of consummation of terrestrial globalization through the planetary synchronization performed by the information and communication technologies that emerged at the end of the twentieth century. Technology, as the construction of habitable interiors, gains enormous importance. For instance, using the metaphor of the Crystal Palace, the globe can be seen as an expanding greenhouse in which its inhabitants pursue technological immunization strategies, such as insurance policies and biotechnology[597].

However, as the process of terrestrial interconnection is completed through the unstoppable flux of capital and information, we finally become aware of the fragile structure of our biotechnological life support systems and of the Earth as the foundation of all possible "life, thought and invention", i.e., the realization of *monogeism*[598]. Modernity and its "side effects" are dramatic if we consider our planetary situation, leaving us with the challenge to develop a prospective intelligence since the emerging "world society will be a society of foresight, or it will not

[594] Lyotard, F. *The postmodern condition*.
[595] Sloterdijk, P. *In the world interior of capital*, p. 4
[596] ibid, p. 140.
[597] ibid, p. 154.
[598] Sloterdijk cleverly addresses that to pursue living conditions in this planet, we need to move from an era of monogeism (the belief that we have only one Earth) instead of monotheism. ibid, p. 6.

be at all"[599]. Furthermore, the climate crisis and the struggles between different "societal units" or immune systems challenge the possibility of civilizational coexistence since the "coexistence of humankind is no more an abstraction of the Enlightenment"[600], but a real issue of our global village, leading to a warning about the necessity of developing a resolutely postmetaphysical general immunology[601] or, as stated provocatively, co-immunism[602].

To better understand the link between globalization and climate catastrophe, we want to explore how the intersection of these two areas creates one of the most significant questions of our time. Bruno Latour's choice to paraphrase Peter Sloterdijk in his book Facing Gaia highlights this challenge. "It is no longer politics *sans phrase* that is destiny, but rather climate politics"[603]. Such a task can be better answered if we consider some of Latour's interpretations regarding the concepts developed by Sloterdijk.

Latour's primary concern is to give materiality to the representations of the mode of existence of the Moderns, which lead us toward an unprecedented ecological crisis, and then to offer a more suitable theoretical framework for the entangled reality we live in, using, for example, his famous approach to Actor-Network Theory to describe globalization[604]. Besides the criticisms made by Sloterdijk[605] of Actor-Network Theory - for instance, because of its bidimensional thinking and consequent neutralization of existential space, spherology shows itself to be a theoretical ally to the Latourian project regarding the ecological crisis. This occurs because, in both approaches, the globe is not only understood as a "modern" representation of the planet we live on or as a kind of background, but it is the real and local habitat that provides the technical conditions of possibility for us to think and act upon it, embedded with local histories and conditions of its agents. As Latour states, "the global is part of local histories"[606]. Moreover, in addition to the physical materiality of the immunological envelopes in which we are inserted, the globe also has a natural history inseparable from human history due to the advent of the

[599] Sloterdijk, P. *Not saved*, p. 192.
[600] Sloterdijk, P. *Selected Exaggerations*, p. 258.
[601] Sloterdijk, P. *You must change your life*.
[602] Sloterdijk, P. *Rage and time*.
[603] Sloterdijk, P. *Globes*, p. 333.
[604] Latour, B. *Spheres and Networks: Two Ways to Reinterpret Globalization*.
[605] Sloterdijk, P. *Spheres Theory: Talking to Myself About the Poetics of Space*.
[606] Latour, B. *Spheres and Networks: Two Ways to Reinterpret Globalization*, p. 142.

Anthropocene, as discussed by several anthropocenologists, such as Dipesh Chakrabarty[607].

Moreover, Latour's interpretation of co-immunism in Sloterdijk's philosophy takes into consideration the concept of Gaia, highlighting the interactivity and response of the environment in which we are involved, demanding a mode of inhabiting the globe that is responsive and sensitive to "these multiple, controversial, mutually entangled loops"[608]. Adding technology to the previous problem, it is clear that both Latour and Sloterdijk converge in considering the fundamental role of discovering new forms of hybridization between technology and nature that escape the dualisms established by modernity, whether through a compositionist perspective - trying not to separate ourselves from nature but assuming and radicalizing our entanglement with it[609] - or homeotechnology (as previously discussed in this work). For both authors, it is not a question of denying technology or finding "moral limits" to its use. Instead, the main task is to develop philosophical reflections that enable technology to go beyond modern dichotomies and allow our global coexistence in the face of ecological catastrophe.

However, the receptions of Sloterdijk's elaborations have received the most varied reactions. On the one hand, Latour[610] considers Sloterdijk an ally, categorizing immunology as the first anthropocenic discipline since the Anthropocene would be the event of "divine" proportions that would enable us to rediscover a common vertical attractor or anthropotechnics necessary for global co-immunity[611]. On the other, authors with a Marxist-psychoanalytical background, such as the Slovenian philosopher Slavoj Žižek, are critical of the previous ideas because they have a greater reliance on solutions that start from the problem of political organization and a pessimism concerning "human nature"[612]. Another criticism worth highlighting is the one made by the French philosopher Bernard Stiegler[613] due to the lack of a pharmacological understanding of technology in Sloterdijk's diagnosis, insofar

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[607] Chakrabarty, D. *The Climate of History: Four Theses*.
[608] Latour, B. Facing Gaia, p. 141.
[609] Latour, B. Love your monsters.
[610] Latour, B. *Facing Gaia*, p. 123
[611] Sloterdijk, P. *You Must Change Your Life*, p. 442–452.
[612] Sloterdijk, P. *Selected Exaggerations*, p. 263.
[613] Stiegler, B. *The Neganthropocene*, p. 114. Although the perspective of developing a comparison between the concept of technology in Stiegler and Sloterdijk is quite interesting and promising, we will not develop it here. Some initial remarks about this issue can be found in Lemmens, P. Hui, Y. *Reframing the Technosphere: Peter Sloterdijk and Bernard Stiegler's Anthropotechnological Diagnoses of the Anthropocene*.

as the former regards technology as essentially ambiguous in the Ancient Greek sense of the term *pharmakon* (i.e., both a poison and a medicine) and argues that Sloterdijk succumbs to a *hybris* when seeing “existential opportunities" in the catastrophe we are going through.

6.3
Wounded by algorithms

The final section of this chapter is about an essay by Sloterdijk addresses the ethical and political dimensions of Artificial Intelligence (AI). This topic is relevant to our discussion because an *art of the improbable* is increasingly dependent upon the inevitable digital aspect of our planetary condition. Assuming the risk of quickly becoming “outdated” due to the , we argue that they can still offer departing points for us to “stand before the untenable”, as we have characterized our horizon of taking technology as a philosophical question[614].

More precisely, this essay is arises from the perplexity regarding the recent advancements in AI, culminating in October 2022 with the release of ChatGPT for public access and its subsequent popularization and widespread impact. However, the astonishment does not mainly stem from being enchanted or fearful of the feats accomplished by the new algorithms of the so-called generative AI but rather from the narratives immediately worthy of public attention. Attempting to ground oneself amid the media storm on the subject, one can discern that despite all the novel possibilities opened up by generative AI, the narratives surrounding it are more familiar than one may think. Taking a conscious risk of generalizing those narratives, we can observe three significant and distinct reactions. On the one hand, we have the concerns of the "general population" about future impacts - at a more moderate level, for instance, teachers and parents who are worried about the increasingly sophisticated forms of cheating on school exams[615], or at a more intense level, professionals fearful of the potential automation of their jobs. Ironically, this latter group is so diverse that it includes programmers wary of their software[616], scientists concerned about the impact of such tools on knowledge production[617], and artists

[614] In section 2.5 of the present work
[615] A valid reflection about the possibilities of the LLM regarding this issue can be found at Sharples, M. Automated Essay Writing: An AIED Opinion. *Int J Artif Intell Educ* 32, 1119–1126. 2022.
[616] https://www.nature.com/articles/d41586-022-04383-z
[617] https://www.nature.com/articles/d41586-023-00191-1

feeling intimidated by AIs that produce digital illustrations based on natural language instructions[618] and which consequently even win awards[619]. On the opposite corner, we have the ever-present tech enthusiasts proclaiming that the "future has arrived" and that we should embrace AI as fast as we can. According to them, since the inevitability of its widespread use, the gains will outweigh the losses for those who master the tool more quickly and adeptly. Furthermore, of course, there is no shortage of "experts" in the media making claims like: AI is a neutral tool (much like a hammer, for example) with potential harms and benefits, and thus, it all depends on the individual and the rational use we make of it.

The discomfort described initially stems from the perception that even if we are dealing with a technological innovation that comes with challenges that should not be underestimated, structurally, such discourses are very similar to those previously expressed, for example, with the advent of the Internet, the sequencing of human DNA, or nuclear engineering. In the first discourse, held by those who see AI as a threat that needs to be tamed, there is the question of possible impacts and ways to address them, either technically (by introducing mechanisms within the technological innovation to prevent its unwanted impacts) or through political-institutional means (via legal and economic regulation). The second one advocates the need for humans to adapt to technology, blending a curious form of technological determinism with a neoliberal economic view. The third one brings up valid ethical concerns, but assumes too quickly the presupposition of total human autonomy in the use of technology[620] (a sentiment resonating with instrumentalism[621], a topic widely debated in the philosophy of technology literature). New technologies and old narratives.

Given this scenario, the main issue lies in something other than our inability to innovate technologically, as widely propagated in the media, but in our inability to craft new narratives that allow us to imagine different futures. Those futures are necessary because we do not only need to address the complex problems of our contemporary societies with the aid of technology, but technology itself needs to accommodate the desires of various social actors and be built in a critical, reflective, and collaborative manner *for* and *by* these actors. This claim leads us to the aim of

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618 https://www.vice.com/en/article/ake9me/artists-are-revolt-against-ai-art-on-artstation
619 https://www.nytimes.com/2022/09/02/technology/ai-artificial-intelligence-artists.html
620 Verbeek, P. *Moralizing technology*, p. 3-6.
621 Verbeek, P. *What things do*, p. 136.

the present discussion: How can we provide pathways to understand the construction of narratives about technology[622] in a more complex manner, paying closer attention to the recent advancements in AI, in order to make alternative futures possible? This question seems to be the first step to another, inevitably on our horizon, which can be provisionally formulated as: How can we coexist with one another in an era where, to do so, we also need to coexist in a genuinely creative and intelligent manner with our "creative and intelligent" algorithms?

The first way to add more complexity to these narratives about AI would be to examine something that we call "AI *beyond* AI." As stated by Mark Coeckelbergh[623], myths about intelligent machines are ancient in Western cultural history, such as the golden statues of Ephesus that assist in Hesiod's Odyssey or Mary Shelley's Frankenstein, with several examples found in contemporary science fiction[624]. Another approach would be to explore how different cultures handle or distance themselves from central concepts for this discussion, such as: intelligence, consciousness, (co)existence, nature, and culture, whether in Shinto tradition or Araweté[625]. It also seems valid to delve into the history of AI and computing in more detail[626], paying attention to the fact that AI (even before being named as such) has a long and intricate history as an academic discipline and in industrial and military applications, which aids in deconstructing its perception as a "neutral tool." All these options seem important in the sense that they offer possibilities to think about AI beyond our current perspective, enriching our ways of diagnosing and envisioning possible futures, which, in turn, should not be reduced to homogenizing differences and flattening existing and potential modes of existence. Paraphrasing French philosopher Bernard Stiegler, what kind of intelligence do we need to cultivate to bifurcate the future?[627]

Another path would be to highlight specific aspects that challenge the conception of technology as neutral, given that this alleged categorization of

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[622] As we will see, this claim does not imply that we have total autonomy in building these narratives.
[623] Coeckelbergh, M. *AI Ethics*, p. 17.
[624] Lyra, E. Hannah Arendt e a ficção científica. *O Que Nos Faz Pensar*, 20(29), 97-122. 2011. In it, we find a large list of important science fiction titles, and arguments that endorse the necessity of looking more carefully at the relationship between science, technology and politics from several issues raised by science fiction. One can also notice the frequency that “intelligent machines” occupy in possible utopian and dystopian futures present in those titles.
[625] Coeckelbergh, M. *AI Ethics*, p. 28
[626] Interesting works regarding this discussion are Ceruzzi, P. E. *Computing: a concise history* and Nilsson, N. J.. *The quest for artificial intelligence*.
[627] Stiegler, B. *The Neganthropocene*, p. 103.

technology as unvarying, both in value and time, seems central to dominant narratives about what technology is. For instance, against the presumed political neutrality of technological artifacts, a widely held assumption that directly influences how we negotiate common spaces in a technological world, we can raise at least three points: 1) Technology is directly related to how power structures and relations are formed in our society. For example, it seems impossible to conceive of what Michel Foucault termed a "disciplinary society,"[628] what Gilles Deleuze called a "society of control,"[629] or what Byung-Chul Han referred to as a "society of transparency"[630] without linking these concepts to the history of technology as such, in that artifacts enable new ways of relating to the world and new forms of agency and, therefore, new forms in which we are conditioned by those artifacts.[631] 2) Technological artifacts create and are conditioned by existing power relations and often operate by making them more visible and reinforcing inequalities and coercive structures. Examples include the replication of racial biases through facial recognition algorithms[632], legal applications of criminal recidivism models (like the COMPAS case)[633], and replicating misogynistic and sexist patterns in generative AI algorithms (like the Lensa case)[634]. 3) The broad (yet often imperceptible) use of artifacts spawns industrial chains that reshape old social problems in new ways, such as: socioeconomic inequalities, with the recent labor market where individuals are severely underpaid in the global south[635] to "train" AI models[636] [637] being a disturbing example; and high degrees of industrial concentration, like the case of Google and other Big Tech companies. These three points reinforce the question already mentioned here: Is it possible to think of an AI built *for* and *by* the people?[638]

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[628] Foucault, M. *Discipline and Punish: The Birth of the Prison*
[629] *Postscript on Societies of Control* in Deleuze, G. *Desert islands and other texts*
[630] Han, B. C, *The Transparency Society*
[631] Such a claim is highly influenced by Winner, L. *Do artifacts have politics?*
[632] https://www.wired.com/story/san-franciscos-killer-police-robots-threaten-the-citys-most-vulnerable/
[633]https://www.technologyreview.com/2019/10/17/75285/ai-fairer-than-judge-criminal-risk-assessment-algorithm/
[634]https://www.technologyreview.com/2022/12/12/1064751/the-viral-ai-avatar-app-lensa-undressed-me-without-my-consent/
[635] A reference that delves into the debate about the specific risks of AI in the global south is Arun, C. *AI and the Global South: Designing for Other Worlds* in M. D., Pasquale, F., & Das, S. (Eds.). (2020). *The Oxford handbook of ethics of AI*. Oxford Handbooks.
[636] https://www.technologyreview.com/2022/04/20/1050392/ai-industry-appen-scale-data-labels/
[637]https://www.technologyreview.com/2019/08/22/65375/venezuela-crisis-platform-work-trains-self-driving-car-ai-data/
[638] https://www.nature.com/articles/d41586-020-02003-2

Although the previous alternatives present equally interesting paths, we propose further developing a narrative about AI through the concept of narcissistic injury, as Peter Sloterdijk previously interpreted Freud's better-known formulation[639]. As Sloterdijk recounts, it is known that in the early 20th century, Sigmund Freud and his disciples faced some resistance from the general public in accepting psychoanalysis and its scientific nature. To argue against this resistance, Freud published in 1917 an important essay titled *A Difficulty in the Path of Psychoanalysis*.[640] The history of modern science, and consequently the recent process of secularizing Western culture, is described there as a succession of profound blows to humanity's self-image, directly impacting its relationship with the cosmos and especially its presumed exceptionality. First, with Nicolaus Copernicus, Earth was no longer conceived as the center of the universe, removing humanity's cosmological centrality. Secondly, Charles Darwin shook the belief in human exceptionality by tracing an organic origin common to all living beings. Thirdly, Freud showed that "the Ego is no longer the master of its own house", revealing it is now governed by not entirely rational processes occurring in the human psyche, thus placing the reluctance to accept psychoanalysis as a form of narcissistic resistance. However, what is the connection between this digression and the narratives about AI mentioned earlier?

As argued by Sloterdijk, such a history of blows and repositionings of humanity's place in the cosmos does not end with Freud. The techno-scientific discoveries of the 20th and 21st centuries, such as the emergence of the computer and the evolution of AI, can be considered more recent shocks to the idea of humanity itself and its own "privilege of being itself,"[641] as properties like intelligence and creativity "ostensibly lose their exclusive character." In order to justify the difference between humans and other living beings, humanistic philosophical anthropology has employed concepts like creativity, intelligence, and strategic reasoning - terms that are now continually challenged by AI advancements, symbolically represented by demonstrations like robots that surpass humans in games like chess or Go, and more recently, generative AI algorithms that have won digital art contests and written essays and texts that would go unnoticed by teachers, such as the notorious

639 Sloterdijk, P. *Not Saved*, p. 217-236.
640 Freud, S. *A general introduction to psychoanalysis*.
641 Sloterdijk, P. *Not Saved*, p. 220-222.

ChatGPT. How can we define ourselves as human when AI seems to be moving in the direction of replicating and emulating the capabilities we are most proud of? To what extent are we being wounded by algorithms, just as Darwin's evolutionary theory wounded us? Are these questions mere philosophical naiveties (which, to some extent, reveal how thin our conception of humanity can be) or opportunities for a new AI-induced debate on what human existence really is? Rather than facing the openness of existence and constantly grappling with its own "definition," it becomes increasingly clear that human existence has a complex relationship with the historical, material, and technological conditions that delimit the horizons of such questioning movements, and AI is not alien to this journey. However, as explored by Hubert Dreyfus[642] and Brian Cantwell-Smith[643], we will not cling to the idea of philosophically asking what computers can or cannot do and its implications for philosophical anthropology. From now on, we will be content to explore how the idea of narcissistic injury helps us build new narratives about AI.

First and foremost, this way of interpreting the relationship between technology and modernity presents the latter as a kind of perverse game, exposing the so-called “subjective cost of enlightenment”as Sloterdijk argues[644]. The gain in the ability to modify reality through techno-scientific advancement would carry with it the destruction and reconstruction of the immune systems in which we inhabit. A brief parenthesis is necessary here: We understand the immune system as a metaphor for the discursive, psychic, and technological constructions that guarantee humans, both as a group and as individuals, the possibility of dwelling in the world in which they project themselves into the openness of existence, permanently endowed with protections that insert them into a meaningful totality. This simultaneous destruction and reconstruction operate as follows: to advance the project of elucidating reality as an operable and manipulable extensivity, a secondary effect would be to challenge the metaphysical constructs that allow for endowing the cosmos with any purpose or order that obeys categories transcending the very explanatory process.

This process has two features: 1) It reveals the history of science and technology as an epochal process, developing itself beyond our individual choices

642 Dreyfus, H. *What computers still can't do: A critique of artificial reason*.
643 Smith, B. C. *The promise of artificial intelligence: reckoning and judgment*.
644 Sloterdijk, P. *Not Saved*, p. 220.

(somewhat similar to how Martin Heidegger characterized the essence of technology as a mode of unveiling). That is, what is at stake here is not merely the "responsibility" of individuals involved in the technological development process since the realization that the very decision to engender or not a process of progressive elucidation of reality is beyond individual agency. 2) It makes a clear asymmetry visible in our society's wounding process. Those who illuminate, invent, and innovate (even if they are not in themselves sufficient conditions for this process) reap the advantage of positioning themselves as transmitters of these wounds or innovations, "spokesmen of the good news", and those who receive these successive wounds (like the great majority of the population who are distant from the research labs) often become passive recipients. What is at stake then is this asymmetry and the direct identification and construction of narratives at different levels to deal with this dynamic reconfiguration of immune systems. On the one hand, some can claim the "advantage of being themselves", while other groups need to reconfigure their immune systems differently. Our claim is that this asymmetric process of subjectivization[645] can lead to heterogeneous narratives that need to accommodate themselves in the same social structure. However, the problem resides in the fact that some forms of immunological reconfiguration seem highly problematic to the challenge of coexistence today, such as: resentment, which finds echoes in social movements with totalitarian tendencies; blind faith in technology's promises, resulting in the depoliticization of issues like the climate crisis and social inequalities through beliefs in techno-solutionist fantasies; or indifference regarding the depth and pervasiveness of technology in contemporary societies, something entirely related to our insistence on thinking only in terms of "problems and solutions."

Following this path, interesting questions include: What conditions make the aforementioned dangerous immunological reconfigurations possible? Is there a relationship between the discourses that immediately crystallize when some "innovation" emerges (like ChatGPT) and our lack of communicability and vocabulary to deal with these issues? Do the configurations of these narratives relate to the

[645] We understand here that there is a strong relationship between the wounding process that was described and the formation of subjectivities in our contemporary world, since the narratives created by these wounds are responsible for opinions and beliefs that are held by these individuals.

increasing distance between our ordinary language and the specialized language of science and technology in general, as previously diagnosed by Hannah Arendt?[646]

Amidst so many questions, it is possible to intuit (in an embryonic way) that AI, by redefining the possibilities of answering what is human (i.e., operating as a narcissistic wound) impacts the circulation of narratives and affects its own discursive reception, with this reception being asymmetrical across society. Such asymmetry relates to the ways different groups reconfigure their immunological systems. It is also possible to observe the "lack of novelty" in narratives (like those mentioned at the beginning of the presentation) to deal with technology. Whether with genetic engineering or the internet, since Copernicus, we have been engaged in a continuous process of explicating the real and offering new ways to operate on it, but at the same time, by placing the human as part of the whole to be elucidated, we disorient ourselves from reference points that allow us to build immune systems that enable a minimum possibility of global (co)existence.

Given this scenario, the idea of thrusting narratives that promise to reverse the process of constant technological innovations (as if such reversing power were in our hands - and if it were, who would have the prerogative for such?) seems dangerous. Conversely, the idea of individually adapting ourselves to such a process is also problematic, as we live in a time more in need of a general declaration of "interdependence" rather than "independence".

The challenge of coexistence in a world inhabited by a plurality of beings manifests itself with remarkable centrality nowadays. Living in a global village is no longer a fantasy of modern Enlightenment, as distant from global synchronization and the blurring of boundaries as Francis Bacon was from his flying machines described in *New Atlantis*. Perhaps our future is precisely to live under the tension caused by simultaneously being thrown into a movement of technicization of the world from which we cannot escape and having the promise of continuing to dwell in the world with tools created by us but increasingly distant from our understanding. Ironically, our challenge would be not to become hostages of our creations, to build spaces where coexistence is possible, and to (re)invent futures by recovering the meaning of words so faded nowadays, like *intelligence*.

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[646] References about the distancing between the common language and the language in which contemporary science and technology is developed are: Arendt, H. *The Human Condition*, p. 11 and Arendt, H. *Between Past and Future*, p. 331.

7
Conclusion

To structure our conclusion, we will divide it into three sections. First, we will compare the work's objectives with its main developments, assessing how the research has met its initial aims. Second, we will discuss some research limitations, addressing areas or dialogues that require further exploration. Finally, we will examine the work's main findings, highlighting its key insights and contributions to the philosophy of technology and continental contemporary philosophy in general.

We now move on to the first section of our conclusion. While other perspectives could have been explored, we focused specifically on a philosophical inquiry into technology, later analyze it through the lens of Peter Sloterdijk. Our main questions were: 1) How can we interpret the concept of technology in Sloterdijk's thinking, given his extensive work and philosophical influences? 2) How can we contextualize the question of technology in our planetary age and interpret it through Sloterdijk's philosophy? Methodologically, our work began by considering technology as a global phenomenon characterized by its paradoxical and complex nature, related to both the omnipresence of technological objects and an "environmental" or interconnected mode of existence that makes up a truly planetary endeavor. Through the development of our work, we have unfolded a perspective on technology that inquires into both the conditions of possibility of our world as such through the phenomenon of technology (i.e., a transcendental aspect) and the description of technological artifacts and their possibility of mediating our worldly experience (i.e., an empirical aspect).

It was crucial to emphasize a descriptive perspective on the philosophy of technology, encompassing both the discipline's history and its contemporary main debates, namely, the dominance of the empirical turn approach and its related theoretical impasses. This examination becomes particularly relevant when considering the (re)emergence of a transcendental perspective on Technology with a capital "T", especially in light of some phenomena that challenge our understanding of technology on a planetary scale, such as the Anthropocene, our planetary (co)existence, AI, and anthropogenesis.

As discussed in Chapters 3, 4, and 5, Sloterdijk's concept of technology consistently exhibits a hybrid nature, deliberately blurring the boundaries between

Heidegger’s distinction between the ontical and the ontological. This hybrid approach is evident in several instances of his work. The first example can be found in Sloterdijk’s call to rethink technology from his early Critical Theory perspective. The materialism inherited from a Marxist-psychoanalytic strain, embraced by Adorno and Horkheimer, is "ontologized" through the notion of “mobilization”. The second example arises in the debate about “anthropotechnics” as a technical mode of coming-into-the-world. The limits of an ontological notion of world are then confronted with ontical developments, such as the theory of neoteny, the principle of uteromimetic technologies, and the paleoanthropological significance of tool usage in human evolution. Another clear illustration of this hybrid perspective can be found in Sloterdijk's dialogues about space and immunology, if we consider both the history and the contemporary debates about these concepts. This hybrid approach is also maintained in our discussion in Chapter 6, as we explore the theme of the Anthropocene. We analyze the conditions of possibility of a phenomenon like the Anthropocene through the lens of technology in its transcendental aspect, and as an empirical counterpart, we discuss the role of thinking about homeotechnics through the concept of biomimetics.

This hybrid nature is particularly interesting for our study because one of the main challenges of contemporary technology studies is reframing the opposition between the transcendental and the empirical. On the one hand, the immediate effects and the micro-scale of human-technology relations must be considered, given how diversely and pervasively technology impacts our lives. On the other hand, the profound entanglement between humans and technology raises transcendental questions about the meaning of "world" in the technological era. Concepts such as coming-into-the-world, anthropotechnics, immunology, and space illustrate the complexity and richness of the boundaries between the transcendental and empirical aspects of technology when viewed through Sloterdijk's thinking.

This hybrid approach to technology in Sloterdijk's philosophy yields not only exciting results but also significant challenges. One major issue is the philosophical dialogues that could be pursued, given the variety of authors influencing Sloterdijk, such as Nietzsche, Deleuze, Heidegger, Günther, Adorno, and Bachelard. To avoid becoming overwhelmed by these possibilities, we focused primarily on the interface between Sloterdijk's and Heidegger's philosophies.

Heidegger's thinking was fundamental to our work for two main reasons. First, his conceptual framework provided a critical reading of our main author, offering a counterbalance to Sloterdijk's often loose and essayistic style, which is rich in "wild" appropriations of philosophical theories, scientific research, and artistic expressions. Second, Heidegger's thought offers a solid foundation for presenting the current "state of affairs" in the philosophy of technology, as the empirical turn is primarily built upon a continuous and critical dialogue with Heidegger.

Having completed the checks and balances of the work's objectives and main developments, we can now discuss the research's main limitations.

The second chapter of this work outlines a concise history of the philosophy of technology, and thus inevitably omits certain perspectives and influential thinkers. Notably, the discussion lacks an examination of contemporary authors such as Gilbert Simondon, whose contributions have become significant in recent discussions of technology, being present in authors who could frame differently our discussion about the empirical turn and its lack of transcendental perspectives, such as Yuk Hui, Bernard Stiegler, and Gilles Deleuze. This exclusion highlights the “selective” nature of our historical overview. which could be enriched by exploring other routes or emphasizing different aspects that are not part of the “mainstream” debate on the philosophy of technology.

In the third chapter, the analysis of the role of technology within Adorno and Horkheimer's *Dialectic of Enlightenment,* and Peter Sloterdijk's *Critique of Cynical Reason* could have been explored in more depth. A more thorough exploration of these texts could provide valuable insights into how these authors perceive the interplay between society and technology. This oversight suggests a missed opportunity to delve more deeply into critical theory's perspectives on technology and its socio-political implications, especially if we aim to confront Sloterdijk’s later philosophy – which has some moments that could be taken as unduly optimistic[647] – with authors thatrepresenting a Contemporary Critical Theory of Technology, such as Andrew Feenberg.

Chapter four focuses primarily on anthropotechnics, as discussed in the essays collected in *Not Saved,* which mainly engage with Heidegger's philosophy. While this approach is insightful, limits the discussion to a narrow interpretative

[647] We are referring here more directly to the conceptualization of homeotechnics (section 6.1.2) and his view on the weightlessness of contemporary world (section 5.5.3)

scope. Alternative approaches could have included an examination of anthropotechnics in relation to the so-called practices of the self, drawing on a substantial debate with the later works of Michel Foucault[648]. This choice would inevitably lead us to discuss the book *You Must Change Your Life* in more depth. Such a discussion could have provided a richer, more varied understanding of the theory of self-domestication and the interpretation of technology as an ontological movement from an environment to a world.

Another significant limitation is the scant attention given to the interaction between technology and Gotthard Günther's philosophy. Although Sloterdijk acknowledges Günther as a crucial influence[649], particularly regarding his interpretation of cybernetics and his development of a trans-classical logic, our work does not engage deeply with these ideas. A dedicated exploration of Günther's impact would necessitate a detailed study of his interpretations of Hegelian dialectics and how they contribute to understanding technology in a contemporary context.

Overall, these omissions point to a broader issue within the work: the challenge of covering a complex author with a vast *oeuvre* while taking the question of technology as a framework. Each of these limitations not only reflects choices made in the focus and scope of our narrative about technology but also suggests areas for further research and discussion in future revisions or related studies.

As we have approached the main limitations of the present research, we can now synthesize the key contributions offered to contemporary continental philosophy in general and, more specifically, to the philosophy of technology.

The first highlighted outcome is an original discussion of the human condition as a *technological condition*. In Chapter 2, we have seen an inevitable entanglement between technology and questions that are ontic, ethical, epistemic, and political-philosophical in their more traditional approaches. Furthermore, Sloterdijk's approach reveals a profound connection between philosophical anthropology and the philosophy of technology, akin to that of Scheler, Plessner, and Gehlen. He highlights the inseparable interface between the biological and existential dimensions of human beings, mediated by a technological mode of world-disclosing. Considering the contemporary landscape of the philosophy of technology, this approach

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[648] Such as Foucault, M. *The hermeneutics of the subject: Lectures at the Collège de France (1981-1982)*.
[649] Sloterdijk, P. *Living Hot, Thinking Coldly: An Interview with Éric Alliez*, p. 320

presents itself interesting. Focusing questions on the complexity of human existence, it avoids a purely descriptive approach to the relationship between humans and technology.

Our work's second relevant contribution is the rehabilitation of grand narratives regarding present technological hegemony, while simultaneously keeping empirical aspects in sight. This grand narrative allows us to consider technology as related to a long-range process that is largely responsible for our planetary state of affairs. It does not seem possible to insist only on local descriptions of technological artifacts and their contexts. Not only did we approach artifacts like hunting tools or apartments, but we also saw how these artifacts are connected with the construction of habitable interiors and their relation to the world-disclosure dimension of human beings.

Another significant result is the organic interaction between Sloterdijk's concept of technology and, contemporary themes that are crucial in the current philosophical discourse on technology. As discussed in Chapter 6, Sloterdijk's work provides valuable insights into pressing issues like the Anthropocene, our challenge of global (co)existence, and artificial intelligence, contributing to new perspectives and horizons for today's philosophical discussion on technology. As a concluding remark, it is crucial to emphasize that the ability to (re)invent technology, thereby enabling our improbable planetary (co)existence - what we have termed an *art of the improbable* - is closely intertwined with Sloterdijk's endeavor for the rehabilitation of grand narratives in contemporary philosophy. In order to engage in philosophical discourse with our world following the "end of metaphysics," Sloterdijk employs a network of new concepts emerging from a complex and rich intellectual heritage, blurring the frontiers between concepts and metaphors.[650] This perspective is particularly pertinent for discussing contemporary technological issues without being confined to exclusively transcendental or empirical philosophical approaches present in the history of the philosophy of technology.

[650] Sloterdijk, P. *Selected Exaggerations*, p. xviii

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[651] The list is made of the titles published by Peter Sloterdijk from 1976 to 2020. They are organized in chronological order (by the release of the German version) and then the respective version which was also consulted (in English, Portuguese or French).

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