

---

# The Care of the Self within a Biopolitical Paradigm: Integrating Cognitive Psychology to resist Subjectification

---

Author: Moses Pierre Dell'Anna

Student number: 1038279

Supervisor: Dr. Antonio Cimino

Word count (excluding table of contents, (foot)notes, bibliography and  
appendices): 19749

Date: 29.06.2025

Thesis to obtain the degree of "Master of arts" in philosophy at Radboud  
University Nijmegen



**Radboud Universiteit Nijmegen**

Hereby I, Moses Pierre Dell'Anna, declare and assure that I have composed the present thesis with the title "The Care of the Self within a Biopolitical Paradigm: Integrating Cognitive Psychology to resist Subjectification", independently, that I did not use any other sources or tools other than indicated and that I marked those parts of the text derived from the literal content or meaning of other works – digital media included – by making them known as such by indicating their source(s).

Moses Dell'Anna

Place: Jüchen

Date: 29.06.2025

## **Abstract**

Contemporary theories of resistance to biopolitical subjectification often reify unfreedom by lacking a plausible model of agency. This thesis resolves this by establishing an ontological foundation for the agent as fundamentally autopoietic and semiotic, drawing on contemporary cognitive science. It then proposes a new foundation for resistance by synthesizing Michel Foucault's later work on the care of the self with the 4P/5E model of embodied cognition. I show how this interdisciplinary approach establishes Foucault's ethical techniques as a systematic ecology of practices for cultivating a free, self-determining agent and by reframing resistance as a practical, embodied ethics of self-formation, it inherently fosters two vital skills: the gain of self-knowledge and self-mastery.

Keywords: Biopolitics – Subjectification – Embodied Cognition – Agency – Foucault

# Table of Contents

Introduction .....	5
1.0 Contextualization of Biopower and Subjectification .....	7
1.1 Defining Biopower .....	7
1.2 Truth Discourses and Bio-reductionism .....	8
1.3 Subjectification and concepts of resistance.....	10
2.0 Agency and Semiotics – reimagining the human .....	13
2.1 Non-computational cognition and natural agency.....	14
2.2 Addressing Classical Subjectification and Computationalism.....	18
2.3 The free individual and the semiotic subject.....	20
3.0 The 4P Model of Knowing: A Cognitive Psychological Framework applied to Self- Formation .....	23
3.1 Propositional Knowledge (knowing that) .....	24
3.2 Procedural knowledge (knowing-how) .....	26
3.3 Perspectival knowledge (knowing-from-a-viewpoint).....	27
3.4 Participatory knowledge (knowing-by-being) .....	28
3.5 Grounding the 4P model in 4/5E Cognitive Science.....	29
3.6 Theory to practice.....	33
4.0 Foucault's Ethics of Self-Care and Technologies of the Self: Across Four Dimensions of Knowing .....	34
4.1 Introduction to the Care of the Self (Epimeleia Heautou).....	34
4.2 Technologies of the Self: Shaping the Self Through Propositional Knowledge .....	36
4.3 Technologies of the Self: Envelopment of the Body and the Procedural Self .....	38
4.4 Technologies of the Self: Envelopment of the Social and the Perspectival Self.....	42
4.5 Technologies of the Self: Participatory Self.....	46
5.0 Interpretation of research results and delineation of limitations and possibilities .....	49
Conclusion.....	51
References .....	53

# Introduction

We live in a time marked by paradoxes where it is hard to understand why we feel disconnected and lonely despite having more means of communication than ever. We also have more choices and availability to means and skills to shape the world than ever before in our history, yet are we actually freer people? The very mechanisms of our society that allowed us to shape the world so effectively are increasingly working to shape us. If we can choose from a million things, but our desires, thoughts, and behavior on which we base our choices are not self-chosen, then we are not free; we are rendered subjects of a system we barely perceive. This thesis confronts this dilemma directly, delving into biopolitical theories of resistance and trying to provide practical solutions that will help people develop a true sense of self and live in accordance with that.

The central problem this thesis addresses is biopolitical subjectification. This concept is grounded in the works of Michel Foucault. He describes the shift of a mode of power that no longer operates through direct oppressive force but through the subtle management and normalization of life itself. Its paradigm is a materialistic worldview in which subjectification is the process that renders individuals into predictable, manageable bio-mechanical entities, meaning determined in terms only by their biological physicality. While academic biopolitical analysis excels at diagnosing this condition and elaborating all the ways and dimensions in which this system of biopower oppresses us, its theories of resistance often lack direct applicability, concrete technical instructions, and credibility, which would need the help of the empirical sciences. Thinkers like Giorgio Agamben or Michael Hardt and Antonio Negri are focused on building resistance outside of the individual and making it depend on external conditions, ultimately reifying a state of unfreedom, leaving little room for a theory of a self-determining individual agent.

This thesis will bridge this gap by combining philosophical theory with contemporary cognitive science. The research question is: Can John Vervaeke's 4P model of knowing, which is grounded in 5E embodied cognition, be applied to Michel Foucault's later work on the "care of the self" to present a systematic and plausible ecology of practices for creating a free and self-determined agent?

There is an implicit premise in the question that the thesis has to defend first: the possibility of a free and self-determined agent. This ontological foundation will be provided by a scientific model of cognition and agency grounded in agential emergentism established by Jaeger et al.

(2024), describing all living organisms and human cognition itself as fundamentally self-referential, open-ended, semiotic, and autopoietic (self-creating). This theoretical framework grounds and originates from the same field as Vervaeke's four kinds of knowing, which will provide an accessible technical frame and terminology suited for interdisciplinary application under which the technologies of the self can be categorized and given more credibility through grounding them in a theory of cognitive science. This further allows future research and development of practices of the self to be operationalized, providing a plausible ontology and technical theory of self-formation.

This interdisciplinary method seems justified by the nature of the problem at hand: a philosophical diagnosis of power and its suppression of agency requires a scientifically plausible model of agency to ground its solutions in, moving from abstract critique to concrete practice. A scientific foundation does not render the biopolitical analysis obsolete; philosophy is needed to understand and see the problems a society is facing, yet its methods must lead to fruitful solutions to the diagnosed problems. Since this is a problem concerning philosophical, political, biological and very personal adversities, its solution needs to involve this interdisciplinary scope in its entirety.

To build this argument, the thesis is structured as follows. Chapter 1 defines the problem of biopolitical subjectification and critiques existing theories of resistance. Chapter 2 establishes the theoretical foundation for a model of free semiotic agency. Chapter 3 introduces the 4P model of knowing (Propositional, Procedural, Perspectival, Participatory) as the core analytical framework for the paper. Chapter 4 then applies this framework to Foucault's work on the "care of the self", seeing if the framework and the ancient ethical practices are conceptually compatible and yield deeper insights together than they do on their own. In the final section, the thesis will form a verdict and summarize the analysis, outlining limitations and possibilities of this synthesized approach.

# 1.0 Contextualization of Biopower and Subjectification

This section will introduce biopower and build a conceptual landscape that will establish existing definitions within the field and provide a contextualization of subjectification and forms of resistance to further the aim of the paper: To understand and introduce practices that resist subjectification. It will also set up two critical skills, which are crucial in relation to subjectification and establishing a conceptual internal split within the field of biopolitics when it comes to the notion of resistance and freedom.

## 1.1 Defining Biopower

Foucault describes biopower as a movement of power, or rather, a movement from a legitimation of power grounded in the right to death to the new biopower, which understands itself as having a right to life (Foucault 2013, 44).

The biopolitical state executing biopower assumes a new function; it governs over biological subjects and is optimizing their lives and productivity (Foucault 2013, 44-45). One form of biopower is expressed by the term anatomo-politics, which describes the disciplining and control over the physical body, whereas biopolitics is the management of the population as a whole (Foucault 2013, 44; Lemke 2011, 35-36). The subject is reduced to all his biological aspects and is managed according to their biological parameters. This culminates in the reduction of life and humanity to a physical and rational body, the individual bodies, and the social body. The two are not separate and constitute each other on many levels. For example, the body can be seen as part of the larger social body, and a narrative is created where one is responsible for maintaining a healthy and productive body in order not to threaten the social body. The social body, in the way it is statistically monitored, serves to justify and impose control over the individual body. The power of the norm operates independently of the population's actual health status; whether the social body is framed as healthy (a norm to which one must conform) or sick (a crisis one must help resolve), the individual is equally compelled to self-monitor and regulate.

The medical, educational, economic and bureaucratic, jurisdictional and telecommunication institutions (no matter if private or state affiliated) are responsible for the orchestration between the individual's body and the political management of life by controlling, correcting, administering and measuring the bodies and operate on them based on the norms

given the current underlying ideology and truth discourses (Foucault 2013, 44; Lemke 2011, 35).

## 1.2 Truth Discourses and Bio-reductionism

It can be argued that the biopolitical ideology is a deeply apolitical meta-ideology, as it steers and subsumes all levels of a society. It originates from the materialists and scientific reductionist logic that renders humans as biological machines (Lemke 2011, 35). This bio-reductionism (Brigandt and Love 2017) builds on the premise that all human phenomena can be reduced and are determined and predictable on the basis of biological processes alone. Seeing humans as only material, entirely transparent, and ultimately manipulable, the optimization of biological life (the core of biopolitical ideology) arose as the dominant prerogative and manifests itself at the political, technological, and individual level (Lemke 2011, 35).

How did this shift to bio-reductionism and biopower emerge? The technological progress in modernity was vital to the formation of biopower. In order to optimize life and gain power through the management of life itself, life needed to be rendered into something that can be subdued, rationalized, quantified, and modeled completely in terms of its materiality (Lemke 2011, 35-36). Science and the deep understanding of biological processes allowed us to monitor life according to birth rates, longevity, and all factors in between that cause variation (Foucault 2013, 45). This knowledge creates a power dynamic; The new knowledge of life normalized and formalized the way we perceive and operate ourselves and others (Lemke 2011, 35-36).

A proliferation of institutions, discourses, and practices of life that focus on the management of the biological body (Foucault 2013, 45) via schools, universities, police forces, psychiatrists, health insurances, news outlets, and many more new institutions emerged. These institutions are where the contact and line between anatomo- and biopolitics moves into each other (Lemke 2011, 37). The normalizing truth discourses of, for example, a functionalist individualistic capitalist society, in contrast with a society focused on the proliferation of individuals with virtuous characters, can be seen manifest in political decisions to manage schools according to this performative and capitalist logic. In consequence, schools and, in general, public and even private spaces are designed accordingly. In this example, the teachers are taught technologies to ensure that the student stays on a path to become a functional and productive member of society, and the school is designed to maximize the effects of the

technologies of discipline. The children find themselves and their bodies disciplined; they are suppressing creative and spontaneous energy to learn to sit still, absorb knowledge, perform and repeat, and subject themselves to the teacher and in doing so to the technologies, the politicians, and the underlying ideology, and the underlying bio-reductionist ideology.

It is important to note that this does not work “downwards” in a conceptual lateral space, since the most abstract level, the meta ideology, exists only within individuals, in our minds; it is therefore a cycle. The individuals embody the ideology and, through living it out, re-create the social order with politics, technologies, and life practices that spread and maintain the ideology both internally and externally.

One important concept that helps understand and highlights this claim is that of truth discourses. Hardt and Negri (2013, 223-224) extend the term by adding the associated mode of labor: immaterial labor. The product of this labor is the creation of subjectivities: language, symbols, representations, thoughts, behavior patterns, rituals, and communities that perform cyclical processes of self-reproduction, absorption, integration, and self-validation; language, which in turn creates self-validating realities or a “virtuality” (Hardt and Negri 2013, 224-225). This means that systems are created that generate all sorts of semiotic noise with language, behaviors, and norms, such that the underlying “truth,” established as an axiom for a way of life, remains hidden. What is discussed remains within the established frame of the truth discourse. Should this be exposed, truth discourses can readily produce counter-subjectivities with new axiomatic *truths* and symbolic jargon. Social media and new communications technology, in particular, enhanced this ability of truth discourses to infiltrate resistance and render it impotent to a new level. Since it works so fast and knows so much about consumers, it targets them based on individual data sets and algorithms. With the new communication technologies available, truth discourses can modify and adapt rapidly, creating new truth discourses and subservient subjectivities that encompass any new addition to the political, social, economic, or simply virtual landscape. It has seemingly become nearly impossible to escape this dynamic process; a demotivating development, especially when one seeks to develop successful strategies of resisting forms of biopower.

In the social sphere, truth discourses can vary drastically; the logic within a truth discourse is pre-given, and internal debate is trapped under hidden value claims. One truth discourse precedes the others, focusing on the material and biological aspects and management of life. The sciences as well as liberal governments, stopped having arguments about morality

and given up the general debate on the teleology and deeper values underlying any given actions, instead focusing on a “(...) 'natural order of things' that defines both the foundations and the limits of governmental action” (Lemke 2011, 46). This factuality, expressed through scientific reductionism, is a core mechanism by which the truth discourse emerges, equating knowledge to power. Biological life and well-being, rendered through a scientific deconstruction and reduction of human beings, can be made appealing and catered to different political preferences. The important fact is that, despite the internal debate, one forgoes the meta-discussion about whether to manage and organize populations on the principles of the biopolitical paradigm; working on optimizing biological life and utilize the full range and knowledge of the sciences and the technologies of discipline in order to not only reach that goal but suppress ideological deviation and political independence. Lemke’s (2011, 36) statement that: “(...) discipline allows for the increase of the economic productivity of the body, while at the same time weakening its forces to assure political subjection” shows that discipline will always be deployed to among other things, establish a societal order that is weak and influenceable. In that sense, biopolitics steers political discourse by having a set implicit goal, such as increasing economic productivity, facilitating biological life, or any other materialistic goals fixed within the pre-given teleology of current politics. This ensures that the discourse renders itself and its possible paths of action in accordance with the pre-determined teleology.

### 1.3 Subjectification and concepts of resistance

Subjectification is commonly described as “(...) the process through which subjects can be turned into simple living objects to be managed and controlled, or, in the extreme, to be made entirely disposable “(Puumeister 2019, 105).

This definition is in debate, there is a tension in the field of biopolitics, one line of reasoning where one considers biopower as totally consuming or the human as fundamentally victim to its forces to the degree that subjectification is only a mere problem of (un)ethical oppression and ultimately turns human into objects rendering them “incapable of any sort of freedom and meaning-making“ (Puumeister 2019, 106). Whereas another line of thinkers argues that this logic, while in part true, also enables the continuation of biopolitical subjectification and oppression. It is important to mention that it is not in question that oppressive and violent systems treat humans as objects, that is a sad fact of this world. What is put into question is if humans can be alienated and actually turned into objects by systems and

if so, whether it is biopower or the ability of the human to be so free that that freedom includes that one can render themselves as an object. This subtle demarcation in the understanding of subjectification is key to this debate, and as will be argued for in Section 2.0, is the key to successfully establishing sustainable practices and systems to regain a conscious life within a biopolitical system. At the ground of these practices will lie an understanding of human nature that includes a potential for freedom gained when one determines the semiotic relationships in which they render themselves.

This view is being opposed, and it can be argued that “(...) the discourse of the university is thoroughly mystifying, concealing its true foundation, obfuscating the unfreedom on which it relies” (Zizek 2013, 509). Zizek (2013, 509) summarizes the implicit point of many thinkers like Agamben, Hardt, and Negri: the foundation on which these thinkers argue and analyze the subject always implies its unfreedom. Puumeister (2019) points out that this shows how thinkers like Agamben “underscore the dehumanizing and desubjectifying aspects of biopolitics, stressing that the politicization of life, in fact, makes political action impossible” (Puumeister 2019, 110). It is rendering humans incapable of escaping subjectification on their own. Here is a breakdown of two forms of resistance and how they are “obfuscating the unfreedom” (Zizek 2013, 509) of the subject they are trying to liberate.

Agamben proposes a retreat from the political altogether. He fails to establish a solution that allows for a politically engaged life that can be lived despite biopower. He proposes “[...]a form of life that communicates only its (im)potentiality; a life lived in 'non-relation' to power: an apolitical life. What resists is understood to be a life that now separates itself from political (inter)action” (Puumeister 2019, 106). It implies an inherent impotence for humans to navigate the biopolitical landscape as free agents and demands its retreat.

Hardt and Negri rely on the same implicit premise, their concept of multitude (Hardt and Negri 2009) implies an inherent resistance to Power created through spontaneous collective collaboration without concrete ontic explanation or practical contextualization that shows how humans are not simply trading one “Empire” (Hardt and Negri 2000; Hardt and Negri 2009) for another. The reference to an oppressive, all-consuming biopolitical entity like that of “Empire” remains. Even the “defeated” Empire serves to sustain the multitude; the Empire remains a phantom that can reemerge when the multitude fails. This fact can lend itself too easily to serve as a new dangerous coercive moral prerogative and effectively bind people to the new collective effort by being able to state that if one wants to avoid falling back to empire,

one needs to sustain the multitude, effectively creating a new external dependency. This critique highlights the hidden assumption, that the individual cannot gain freedom from biopower but it is only possible to change the structure and teleology of biopower to a new subjugating meta-ideology, under new values, promising more diversity and freedom, but it never addresses the root cause of subjectification and will in all technicality produce further subjects.

No matter which intellectual interpretation of subjectification one subscribes to, it is important to understand how vulnerable we are to biopower and how it can take form. Subjectification can take place either unconsciously or unwillingly. Let us imagine two cases: An algorithm predicted successfully your interest in a given subject, it fuels directly into your personal pathology, and it does not give you an opportunity to pause and think about how this content relates to your Self. It short-circuits your emotional triggers most effectively to raise your interest purely reactively. Based on that “catch,” you integrate new interests, thought patterns, maybe repost content, share and spread, and correct ideas, or simply purchase goods and services. The new subject will be introduced into your life and manifest in your body, mind, or environment without you ever making a conscious choice over it. Researchers worry about the loss of individual autonomy due to new technologies, and this is no longer a mere philosophical concern. (Kramer, Guillory, and Hancock 2014; Mik 2024; Petropoulos 2022)

Let us assume a second reality: You assumed a habit that you are aware of and want to change, yet you are addicted to it. It can be anything, doom scrolling on TikTok, pornography, sugar, adoration via likes and comments for posting content. There are many ways biopower, with the help of new or old technologies, hijacks our biochemistry so effectively and it makes its commodities so easily accessible and markets them so aggressively that “quitting” seems near impossible. (De et al. 2025; Love et al. 2015; Witek, Wydra, and Filip 2022)

These examples exclude the full depth and pervasiveness of biopower as established prior in theory, but they show how, despite being deployed in the service of biological life, technologies often achieve the opposite. However, these examples are relatable and show how common and mundane the battlefield over our autonomy can appear to us. They highlight how one can be aware of truth discourses or other forms of biopolitical control and try to resist them and yet due to new technology, it becomes increasingly harder to resist even the most basic and blunt forms of subjectification. These two examples show two vital skills that are undermined: Active and conscious self-formation and a reflective relationship with one’s thoughts, emotions,

desires and habits and the ability to be in control over one's actions, able to resist drives that promote behavior contrary to our possible and self-determined self.

The urgency and need for the development for new technologies, concepts and life practices that help us remain our autonomy and manage to be able to interact with increasingly stronger forms of technologies of discipline was hopefully established with both accounts of how contemporary theoretical approaches undermine human autonomy conceptually and by showcasing the immediate danger to our autonomy posed by subjectification in our everyday life.

This section defines subjectification and contextualizes the concept within current biopolitical analysis. This is important because it establishes the processes, consequences, and dangers of subjectification, aiming to highlight how the developed practices will target the established issues, such as the lack of a creative process of self-formation the loss of personal autonomy, and the inability to resist externally imposed drives that take over our thinking, emotions, and behavior. It also showed the need for a concrete ontology of agency based on the internal split of premises over human freedom as seen by Puumeister and Zizek, questioning the line of thinkers such as Agamben, Hardt, and Negri.

## **2.0 Agency and Semiotics – reimagining the human**

This section will establish a scientifically grounded understanding of agency and cognition and ground a new understanding of a semiotic subject within the bio-political paradigm. The concepts of natural agency, relevance realization, and autopoiesis will present a newly established and technical definition of freedom, based on naturalistic and biologically plausible theory. The mechanisms of how freedom biologically emerges can be technically linked to the formation of biopolitical subjects and will effectively inform practices of facilitating a free self in later sections.

## 2.1 Non-computational cognition and natural agency

“Naturalizing relevance realization: why agency and cognition are fundamentally not computational” by Jaeger et al. (2024) will be the primary reference for a scientifically oriented framework that establishes biological life as fundamentally semiotic and explains how organisms evolved to increasingly higher levels of agency, due to changes of internal organization and goals.

Jaeger et al. (2024) claim that organisms live in a big world, complex and dynamic, and there is no computational operation “[...]that renders you fit in all environments, nor is there any factor that is relevant across all possible situations.” (Jaeger et al. 2024,3) Computational agents operate based on a “predefined formalized ontology”, a “small world” (Jaeger et al. 2024, 2). Issues like Gödel’s incompleteness theorems show how we simply cannot predict all possible theorems in sufficiently complex formal systems (Longo 2011; Nagel and Newman 2001). These theorems describe problems in physics which ultimately ground other disciplines like chemistry and biology, the emerging insights from the unformalizability of complex enough systems therefore extend to the more complex biological systems. As a principal argument, this shows how the world is open-ended and itself emerges from processes that evade traditional capabilities to formalize them in their completeness.

Non-living objects like computers do not really have to concern themselves with this complexity; they have no intrinsic motivation to be something other than what they are. They cannot be “concerned” with anything. Their goal is given externally by programmers and is entirely deterministic (Jaeger et al. 2024, 21). Opposed to that is life, which has an inherent drive to continue itself, which enables life to have agency where non-living things are merely “acted upon” (Jaeger et al. 2024, 21).

Does life not adhere to deterministic principles? Yes and no, the proposed answer lies in agential emergentism, which postulates a natural agency: “We can define natural agency in its broadest sense as the capability of a living system to initiate actions according to its own internal norms.” (Jaeger et al. 2024, 3). Life is a local system of complexity that emerges from “[...] the process of autopoiesis or selfmanufacture, implemented by a self-referential, hierarchical, and impredicative causal regime that realizes organizational closure” (Jaeger et al. 2024, 5).

A Bacterium, may absorb energy from outside itself but the basis for its own organization, the inner processes and parts of the cell are built and maintained by means of a genetic code that is carried inside the bacterium, all the inner organization is based on the DNA and other related processes. Outside effects, will be reacted to but do not serve as the ordering reference point of the organism's inner organization (self-referential).

It also has different levels of organization within the self-production process, establishing some as more and some as less relevant. Some elements within the organization of the organism are more essential to its maintenance of itself. This means that inner organization allows for the structuring and discrimination of sub-processes (hierarchical).

The organisms' components and processes are interdependent and circularly defined, meaning they cannot be defined or predicted independently of the whole. Organisms consist of different processes, organs, body, parts, and cells working together, which influence and manage each other to constitute the living organism. Therefore, the organism and its subprocesses are causally impredicative (impredicative causal regime).

The organism's operations produce its own boundaries and maintain its distinctiveness from the environment, despite continuous interaction with it. It is "closed off" in terms of its organization, but "open" in terms of matter and energy exchange (organizational closure).

The inner organization is constantly aimed at preserving local complexity and preventing the organism from falling into entropy by establishing itself as closed off from its environment and having all inner systems aimed at maintaining themselves. Since the environment is constantly shifting, the inner organization needs to be able to react to those changes and change itself while maintaining itself. This happens due to mutation, reproduction and natural selection: the DNA, the essence and ordering principle, the source of the local complexity, the very teleology of a simple organism is being passed on, changing itself in order to survive.

According to this conception of life, life itself is its final causation and determines itself. It is not reactive to the environment in a way that supposes a causation or determination of its being. The fact that organisms learn to recognize patterns and realize what is relevant is not finally caused by the environment but emerges based on the drive of the living being to maintain itself, without that drive, there is no process that would preference the formation of reactions based on sensory input. Jaeger et al. (2024, 10) state that this is how any organism

and evolution adhere to the laws of thermodynamics and yet within it is not reducible or entirely predictable by them. The emerging biological organization reaches a level of self-organization that manipulates matter based on classical thermodynamics, but its own movement is not caused by simple reactions to the environment. Instead, it is driven by self-defining internal regimes that give rise to a new level of complexity, which is causally impredicative and exceeds formalization based on classical thermodynamical systems (Jaeger et al. 2024, 10). This theory is based on the famous metaphysical concept of strong emergence, where lower systems of complexity can substitute higher-level systems of complexity that cannot be predicted by the lower-level system but emerge with their own new rules of causality within the system (O'Connor and Wong 2015).

How did life emerge and survive in this complex world if there is not one computable factor “[...]that renders you fit in all environments, nor is there any factor that is relevant across all possible situations.” (Jaeger et al. 2024,3) According to the paper, the answer is an open-ended evolution based on the evolutionary processes established by Darwin and modern biology that selected organisms to become better and better at relevance realization (Jaeger et al. 2024, 5). Relevance realization is how organisms are able to encounter their environment without needing to compute an impossible amount of potentially relevant facts. This is also known as the frame problem and poses a serious issue for AI programmers, trying to teach computers to operate independently in any complex environment. (Jaeger et al. 2024, 7)

Any organism stands in a relationship of care with its environment because it lives in accordance with two goals: staying alive and reproducing (Jaeger et al. 2024, 8; Maroney 2009). The goal defines then the relevance, and allows the organisms with a goal to stand in a meaningful or semiotic relationship to their environment, depending, in its most rudimentary principles, if the environment will aid or obstruct them in achieving their goal (Jaeger et al. 2024, 2).

The perceived and lived environment, which is relevant to a given goal, is called “Umwelt” established by Jakob Von Uexküll and Thure Von Uexküll (1992) and picked up as a concept by Jaeger et al. (2024, 5). It is a useful term when one wants to express the perceived environment that is rendered to an organism, in relation to a given goal; it expresses that perception itself is semiotic. Since there is an infinite number of facts and objects in our environment (like the number of clouds or blades of grass), only those things that are emerging as potentially relevant to a given goal will be rendered in the Umwelt and

experienced or perceived; the rest will be filtered out (Jaeger et al. 2024, 5). An organism has an evolutionary advantage when it successfully maps an Umwelt in accordance with its teleology (to stay alive and reproduce). Reproduction, mutation, and natural selection were the first steps for an organism to change its inner regime, preferencing the facilitation and optimization of realizing what is relevant in a given environment (relevant to the telos of the organism).

Evolution made organisms good at predicting their environment and Jaeger et al. (2024, 7) establish the how and why with much detail, but for the purpose of this thesis, it is sufficient to draw from an example they use. A bacterium hardly predicts its environment in relation to its goal, since its actions themselves are so limited that the benefit of complex predictions is low. Over time, animals evolved with the ability for highly predictive cognitive abilities (Jaeger et al, 2024, 7). That is why we experience a dog as intelligent; it can predict complex connections in its environment and map onto it what is important for itself. Jaeger et al (2024) argue that cognition works on the same principles as the described autopoiesis, which was previously tied to the biological organization in terms of organs, energy management, DNA expression, etc. They claim that cognition can work in parallel to the organic autopoietic functions and mimics its function to change inner organization, able to switch goals and consequently behavior way quicker than through changes in DNA.

The cognition is also highly effective at ordering inner processes, but even more so at establishing hierarchies of the objects of perception; it is able to do so due to its plasticity. The cognition, developed in higher-level animals who have complex brains, can now change inner goals, hierarchies, and action patterns based on learned connections and predictions of their environment. This allows for goal shifts to occur without needing long processes of evolution. It is noteworthy that the agency of a simple life form is arguably less potent and less free than that of a dog, for example. The dog is capable of deep learning within its own lifetime, whereas the bacterium only “learns” as a species.

In principle, the dog is still ultimately bound to its biological telos. Animals can, for example, not commit intentional suicide (if it does not serve a utility in regards to fitness) (Hamilton 1980; Preti 2007). Its agency makes it ontologically distinct from non-living objects because it has an intrinsic aim and due to autopoiesis, it is self-defined in terms that life is what life does based on its very essence (DNA). Animals are not able to come into a new relationship with their own telos. So “freedom” in terms of open-ended possible

expression of life is given, and seemingly increased from species, to individual organisms, yet is in animals always tied to their telos.

The organism, its goals, the Umwelt and the environment are dynamically influencing each other; they are “transjective”. Neither objective nor subjective but open-endedly co-evolving (Jaeger et al. 2024, 5). The environment (objective) is being rendered through a subjective lens as the Umwelt and is being shaped by the organism’s subjective perception of the environment. The objective environment shapes the organism as well. In this interplay, both are influenced by the organism’s subjective inner regime and the objective demands and conditions of the environment; they co-evolve in this dynamic interaction and are “transjective” (Jaeger et al. 2024, 5). Niche construction is one example of this; it works both ways, the organism naturally shapes its environment with its own participation in it, just as the environment shapes it and other organisms. A species’ semiotic ability over the span of multiple organisms has to be fundamentally open-ended and non-computational since the evolutionary process is based on a dynamic interplay of many different species and complex environment, that is on top of its own open-endedness, shaped by the many organisms that are constantly adapting to each other and the shifting environment.

## 2.2 Addressing Classical Subjectification and Computationalism

The computationalist’s rendering of the human is identical to that of biopower as described in 1.1, where it is argued that humans are objectified and subjugated to the ontological formalized environment of biopower and the logic of established truth discourses. They both stem from the same scientific tradition that tries to capture humans in their biological materiality with the axioms of a mechanistic ontology. Jaeger et al. (2024, 4) rate the dominant scientific perspective on cognition and agency as “(...) extremely popular and widespread in contemporary scientific and philosophical thinking, the basic tenet being that both natural agency and cognition are special varieties of algorithmic computation.” This aligns with Puumeister (2019, 106) when he raises the following question: “how is it possible to conceptualize resistance in the context of biopolitics if the life governed is separated from the subject and rendered into a passive, controllable process or an object“. In this sense though Puumeister is merely critiquing the possibility of resistance in such a system, it shows that the “mechanistic” core principle is given in both classical academic biopolitical analysis and the modern scientific framework, strengthening the claims made throughout section one;

that truth-discourses and subjectification, utilize and operate under a modern scientific “bio-reductionist” or computational ontology of life.

In both cases is the “[...]thesis not that those who control the circumstances control the people?” (Zizek 2013, 509) The logic of the reductionist view of human cognition is one-to-one translatable to the biopolitical assumptions that biopower is able to control the people by means of controlling the circumstances, with the hidden assumption that humans are determined by these external circumstances and lack true agency. These “circumstances” would necessarily be embedded in our environment, or more precisely, in our Umwelt.

In combination with the established principles of life from Jaeger et al. (2024), one can extend the understanding to human life. Humans are doing autopoiesis based on a self-referential, hierarchical, and impredicative causal regime that realizes organizational closure and is grounded in a semiotically determined Umwelt, with the addition that they do so physically and cognitively. It is entirely plausible and will ring true to our immediate experience that we built our psychological self based on *self-referential* memories that all relate to the self. We also understand that our self is *hierarchical* and has *impredicative* regimes because some memories, emotions, and values are more important to us than others and they define us only in the interplay they form and are not definable without the context of the whole that they constitute. All that together forms the sense of being a closed-off and individual entity, both in terms of our sensation of our body, but also in the sense of our personality and psychological self, which resembles our cognitive *organizational closure*.

The narrative that the circumstances determine the natural agent, in this case the human, is then implausible, not only based on the general argument that even a bacterium is, as long as organizational closure is maintained, dependent on its environment but is not causally determined by it. As established in section 2.1, they are both transjective and mutually co-evolving, but the organism is being “caused” by its inner organization. Subjectification can therefore oppress or normalize behavior, but it can only do so by impacting the Umwelt, not the human’s capacity for meaning-making itself. Since that is the basis for how life perceives anything and is able to operate (see 2.1 for how perception is tied to goals). This makes turning us into “objects” technically very difficult, with death being one guaranteed way that can be technically accomplished.

Biopower itself ultimately has no own agency; only living organisms with a goal, that care about something, can have agency. In this sense, the political paradigm emerged because

its “ideological” contents animate and organize human behavior according to its basic presuppositions (materialism, computationalism). Biopolitics emerges when humans internalize its logic and live it out, organize themselves and the society accordingly. This started historically with the idea that the human is entirely accountable for in its materiality (see 1.1).

The differences to an age before the material empiricist and scientific reductionist would rule cultural and human self-understanding will be delineated in section 4.0 when encountering societies that facilitate a care of the Self, the soul or character, rather than just the body.

## 2.3 The free individual and the semiotic subject

What constitutes human capacity for freedom and how does it emerge? As established, humans engage in autopoiesis also cognitively when forming a sense of self. It was also established that goal shifting is tied to the ability to shift perspectives and was evolutionarily selected for. It was also established that animals cannot redefine their teleology, only sub-goals. Humans possess the unique ability to imagine and to self-observe. This grants us, in theory, the possibility of a higher degree of freedom. We can now become aware of our main biological drive, to stay alive and reproduce and come into a semiotic relationship with it. In some circumstances, with the emergence of culture, it was beneficial for survival to learn to accommodate different drives and learn to suppress our more innate biological drives. We have the power to imagine ourselves, throughout time and space, doing different things, having different goals and a different teleology altogether in a combinatorially explosive number of options for how we can live just one hour of our lives. Humans still anchor most their actions in a given teleology and hierarchy of values that will order their life and actions accordingly. In order not to drown in a flood of uncertainty and endless possibilities, it is imperative to formulate a highest goal. I propose freedom as the semiotic exploration of one’s self and one’s teleology, allowing one to shift and change these inner norms and autopoietically design the self as one increasingly gets to know oneself and is able to express and actualize the new relations to one’s self. The question of what constitutes this knowledge will also be answered in its technicality in section 4.0, where the theory of embodied cognition, with its four ways of knowing, will ground the concept of knowing in general.

Puumeister (2019) states that biopower needs our semiotic ability: “[...] perhaps paradoxically, it is this semiotic freedom to modify behavior – change the nature of semiotic relations and re-signify objects – that enables something like biopolitics [...]” (Puumeister 2019, 117-118). Biopower works by presenting itself as an ordering principle for our semiotic relationships, yet due to its conceptual contents and understanding of the human as a computational and pre-determined agent with the main purpose of its own biological optimization only produces a being standing in fixed meaning towards itself, it produces semiotic subjects. Subjectification will be operationally re-defined as the different forms of biopolitics facilitating an internalization of its paradigm into our self and with that it hijacks the process of inwards turned autopoietic freedom. The classroom example from 1.2 highlights how we are conceptually, physically, socially and participatorily disciplined in the lived adoption of a biopolitical paradigm and a certain subjectivity. It does so by changing our Umwelt to the point that we learn how to embody a self-understanding of ourselves as instruments to obtain a fixed goal in relation to a fixed scientific and cultural ontology.

This ontology is the biopolitical paradigm that takes our biological being as the most real and vital in politics; it is grounded in knowledge over the biological and its facilitation is its main concern. The established norms form the rational, disciplined, and self-monitored body as outlined in 1.1 and 1.2. When we semiotically enact this ontology and act as if our materiality takes precedence, we self-organize both ourselves and the world with no room (in theory and practice) for self-determination.

Together with the political, technological and adaptive apparatus of biopolitics, the facilitation of the internalization of this ontology is extremely powerful and well-established. In principle, the different forms materiality can form an ideology is somewhat irrelevant, be it biological, economic, or ethnic; central to this process is the reduction and relation of being and life itself to a deterministic materiality that creates the fixed understanding of the self.

Biopolitics is dependent on humans, both in its existential dimensions as well in its capability to adapt and subvert so effectively. We are not being taught to engage in autopoietic freedom, to engage in introspection, or explore our values; instead, our immaterial labor is used to update and re-signify subjectivities and truth discourses, since only we as semiotic devices can actually integrate novelty successfully (see 2.1 for why semiotic organisms can adapt to novelty).

When biopolitics is grounded like this in the human itself, we have an actual, operational framework that enables tangible solutions. The factor of oppression is reduced to something ontologically less radical; the only way it could truly subject us is by killing us or hurting us so badly that we lose our innate drive to life; in that moment, we turn into objects. It is when we lose our capability to remain local, self-defining complexity of inner regimes that realize our organizational closure, that we give up energy freely to the environment and interact with it without an inner telos; this can also happen cognitively by losing the ability to form a coherent psychological self.

How do we get from the semiotic subject to a free individual? The logic of the current framework of the semiotic subject states that unfreedom is given whenever the self is rigid or fixed. The Self can be fixed in more ways than conceptually, though that is definitely one important dimension. As shown in 1.3, we can even have a reflective self and want to live it out, but due to a lack of strength or tools to overcome biological or psychological resistance, we cannot express it, as is often the case with addictions. In fact, we are born with a fixed teleology; newborns are not free individuals. They do have the innate capacity for it, but are ruled by a fixed semiotic relational map to their environment based on biological impulses. Only later in life can they learn to cognize themselves and change their understanding and relationship to these biological impulses. We train the suppression of these impulses early on when we teach kids to use the toilet as soon as they are capable of doing so. The Self gains freedom through self-control. This self-control is a pre-rational process at first grounded in embodied cognition and a concrete experience of encountering the Umwelt and their demands, in this example, the parents teaching and demanding the kid to train self-control.

In higher levels of cognition, introspection allows for a more fundamental freedom, as one can gain a comprehensive image of the self and learn to cognize internal drives, able to re-signify them more consciously. The deeper the insights of one's inner self, the more fundamental the possible re-signification. In that sense, the process of becoming a free, self-determining individual is open-ended and gradual since one constantly makes new experiences and is able to signify oneself and inner drives constantly new. It is arguably one of the hardest things a human being can do.

This process of gaining self-mastery and self-knowledge is tied to morality itself: both are gradual, never perfect or complete endeavors, as no one is always acting perfectly moral, yet the fact of its incompleteness makes it not one bit less valuable to pursue self-mastery or a

moral life. More importantly, freedom and agency are presuppositions of any moral action (Talbert 2019), making the facilitation of a free self an inherently ethically related project. How we can aid this facilitation with concrete practices and useful concepts will be explored in the following sections.

### **3.0 The 4P Model of Knowing: A Cognitive Psychological Framework applied to Self-Formation**

The four ways of knowing established by John Vervaeke (Henriques 2021; Vervaeke 2025) are phenomenologically grounded yet scientifically informed analyze of different kinds of knowing. It is not yet a widely used framework in cognitive science, but it rests on his practical work as a highly successful philosophical counselor and his scientific work in 4/5E embodied cognition (Hovhannisyan and Vervaeke 2021; Vervaeke and Ferraro 2013). As a cognitive scientist and a philosopher of mind trained in wisdom research and practices grounded in Buddhist to ancient Greek philosophy, he will be a natural fit for Foucault's ethics of the care of the self, which is grounded in ancient Greek up to early Christian philosophy. This paper applies Vervaeke's very intuitive 4P model (Propositional, Procedural, Perspectival, and Participatory forms of knowing)(Henriques 2021; Vervaeke 2025), which will allow a deepened analysis of technologies of the self. It aligns further with Foucault's centrality of the body in his historical analysis; he moves beyond the mere propositional and sees the human as embodied within a web of ideologies, technologies, institutions, social relations, and concrete habits and lifestyles. This aligns naturally with the enactivist understanding of human cognition and the 4P model, which also highlights the human among multiple dimensions of embodied, social, conceptual, and participatory knowledge.

The breakdown of the human experience into these four categories will allow a systematic review of how humans are captured by biopolitical subjectification as well as how the practices established in the ethics of the care of self map onto the most fundamental forms of human knowing. It is with the application of this model, which is based on embodied cognition (Henriques 2021; Vervaeke 2025), that one can categorize how humans experience, form, and get to know themselves. This is part of the methodological strategy and general aim of the thesis: to ground biopolitical and philosophical analysis in tangible research in cognitive science not only to validate or invalidate the concepts, nor for the sake of interdisciplinary work

itself but in order to translate the philosophical concepts in a way that allows for an establishment of technically comprehensive, applicable and justified practices for the free formation of the self.

How does the account of free agency by Jaeger et al (2024) relate to the four ways of knowing and how do they aid in furthering the research goal? The four ways of knowing establish a systematic and scientifically inspired account of how humans get to know things in general. As argued by Jaeger et al (2024) the general capacity for freedom needs to relate to shifts in one's goals, in order to shift perspectives and establish a new semiotic rendering of the Umwelt (see 2.0-2.2) Shifting one's goals is possible due to life's unique capacity of autopoiesis and relevance realization and an evolutionary process that selected for capacity to change goals. A human can enter an introspective relationship not with mere internally set goals but can reflect on their teleology. For that, we need to know ourselves and our teleology well, because only when we know the self can we consciously decide to form new relationships with it. (see sections 2.0 to 2.2 for how teleology renders potential for action) When we are aware of which ways of knowing the self can be related to, we can start exploring a more holistic relationship to the self and through that form higher degrees of freedom. How this looks in practice will be explained in the following sections.

### 3.1 Propositional Knowledge (knowing that)

Vervaeke (2025) states that propositional knowledge is centered in the realm of signs and symbols. It is often grounded in logic and deals with "what" questions. It is knowledge that says that something is a certain way. An example would be the knowledge that a fish is not a mammal or that one plus one equals two. It is often experienced when we know something to be true based on one or a series of propositions. It is the most favored form of knowing in our Western society, where schools and universities are mainly focused on the spread and gain of this type of knowledge. (Henriques 2021; Vervaeke 2025)

In relation to biopolitics this form of knowledge is often communicated to the subject as the most imperative frame of knowing, it grounds the truth and knowledge claims, is itself concerned mainly with material issues and allows for conceptual binds through logical traps. By stating propositions one can also set a frame; instead of asking the public whether it is more important to have freedom or safety, one can simply line out two slightly different models of a

technological or policy approach on how to facilitate safety excluding freedom from the debate. Biological safety and risk management can after all be scientifically quantified, monitored, administered and propositionally communicated, whereas virtues like freedom and self-determination, are a priori not part of the bio-reductionist framework.

The propositional tyranny in our society has been described by Vervaeke as one of the root causes for the “meaning crisis” linked to rise in mental health issues across the Western world. (Mastropietro and Vervaeke 2024; Vervaeke 2019; Vervaeke 2025) In his analysis, the other forms of knowing are fundamental to a fulfilled and healthy life, but are not sustainably integrated and oriented in our daily life and forms of experiencing and realizing ourselves in the world.

Another viral aspect one can observe in regard to propositional knowledge about the self is connected to the human ability to imagine. Humans can propositionally understand their self as part of a given ethnicity, nationality, or as a biological entity. Depending on how much the sense of self is bound in materialistic and definitive propositions, the more or less free the self is. One can include all three previously mentioned categories in their self-image, but extend it by principles that render us free in relation to them. My fixed material circumstance (race, nationality, body) does not define me. Instead, one can understand the self propositionally as dynamic, knowing that actions, thoughts and values matter more in relation to defining oneself, or that the self is not an abstract identity that can be formalized but only known in experiencing the world and the relationship one has with it.

One needs other forms of knowing to translate this propositional understanding of self and actually live out these propositions. As we prioritize propositions and materialistic ontologies of the self we base our actions often on our propositional self-understanding. That is another reason, why academic biopolitical analysis produces a reification of unfreedom (see 1.0 to 1.3: rendering the subject as oppressed and offering only external ways of solving the issue, like removing the subject from politics or relying on a formation of a collective for freedom) and why it was important to offer an alternative plausible scientific model of the self that understands the self as a free agent. (see 2.0-2.3 for possibility of free agency)

### 3.2 Procedural knowledge (knowing-how)

Procedural knowledge is the knowledge how to do something, often translated in implicit knowledge of skills, actions and depends on the body moving or sensing. It is expressed and realized as procedural knowing only in the moment of exercising it. That is why propositional knowledge of how to do something in theory can sometimes be useful when one first learns a procedural skill but can never be equated to it. There are two different categories of knowledge though they of course often work hand in hand (Henriques 2021; Vervaeke 2025). Neurosurgery is a good example where propositional knowledge of the human anatomy needs to work hand in hand with procedural knowledge, like how to perform a certain cut etc.

How does procedural knowledge relate to knowledge of the self? When we exercise in sports we not only learn how to move, we feel ourselves moving, we experience ourselves as an active agent. We need to coordinate our actions with our senses, embedding us actively in our environment. We feel our body, we feel alive, it is an integral part of experiencing the rawness of life, it is an inherently phenomenological experience and something that can not be translated in language or formalized in logic.

How does biopolitical subjectification work on the self in this category of knowledge? It is an essential and vital part of Foucault's corpus that the body is disciplined and in modern biopolitics taught to self-manage and regulate. (Lemke 2011, 33-35) The skill of suppressing impulses and enslaving the self to a propositional order like established with the classroom example (see 1.2) highlights how the body is trained to sit still and taught the procedural task of relating incoming sensory input to mainly propositional content. Procedural knowledge is denoted by the unconscious and often takes form as automated knowledge of how to do something. Routines, like checking the mail, scrolling on the phone, turning the tv on and watching the news after work, stopping when seeing red in traffic are all ways subjectification occurs by us learning skills that are normalized and required to operate in a biopolitical state. The body by means of technologies of discipline is taught automated behavior and skills of self-management, this can therefore be categorized as procedural knowledge (of the self). (Lemke 2011, 35)

### 3.3 Perspectival knowledge (knowing-from-a-viewpoint)

Humans can understand something and shift the meaning of that thing based on a given context, frame of reference, or perspective. Perspectival knowing is situational and relational, reflecting how an individual perceives and interprets phenomena differently and is able to interpret them differently, based on perspective, experience and interpretive lenses (Henriques 2021; Vervaeke 2025). Perspectival knowledge allows us to relate our own perspective and that of others and understand how that perspective shapes and determines the perception of a given object or situation (Henriques 2021; Vervaeke 2025). It can be highly intuitive like the atmosphere at a wedding or funeral, it is more than knowing how to behave appropriately propositionally, we do not have to constantly recall how we need to behave and to pay attention to it. The perspectival knowledge of the social event is something embodied and intuitive. It is partly culturally trained and different cultures will foster different perspectival knowledge. It also allows us to relate to others' emotions, knowing how it feels when we have just lost someone we loved. When we experience that certain "perspective" before, the first-person experience of losing someone close, we can know how someone else feels in that moment and based on that conclude what an appropriate reaction would look like. Perspectival knowledge grants us insights into the subjective semiotic rendering of an Umwelt based on different perspectives, contexts and experiences. (Henriques 2021; Vervaeke 2025)

Biopolitical technology deploys perspectival knowledge in terms of deep cultural norms. In a given situation, some things are known not to be said. We are trained from a young age that when there is an expert or authority figure, we understand that social perspective and adjust our behavior accordingly, sitting still and listening to what the authority figure has to say. Norms of mental health are often perspectival, intuitive knowledge of what behavior is acceptable and what is "sick", without needing to have propositional ties to that knowledge. Sometimes, propositional knowledge is how we internalize and train perspectival knowledge. It starts by consciously remembering a certain proposition tied to a perspective, person, or context and then acting accordingly, until the particular context alone triggers the behavior without needing the conceptual link first.

The famous concept of the panopticon is built entirely around humans' innate ability for perspectival knowledge (Gutting and Oksala 2019). The prisoner (or member of a social

subjectivity) knows it is being watched or could be watched at any given time and based on that contextual knowledge, the behavior changes.

What biopolitics is not promoting is the ability to make much use of perspectival knowledge when it comes to self-determined understanding. It uses it to normalize and control behavior, but it interrupts a genuine ability to see the self from different perspectives. When we are trained in adopting commodified subjectivities (see 1.1-1.3) simply fitting ourselves into an established socio-cultural norm of how to act in given contexts, then we never train to see the self from different perspectives nor how to design our own Self, which as established in 2.0.-2.3 is tied to shifting perspectives of the self.

One can be encouraged through social practice, setting, or simply by another person to put the self into different perspectives by using different interpretative frameworks. We can then decide to adopt a new goal or teleology, like when imagining our life as living under God, or our imagination of living in alignment with any other value. The perspectival shift needs to happen first and to make it clear, this is experiencing the self, embodied from a certain new perspective, not just rationally. It can start as a cognitive shift, but for the self to understand itself, for example emotionally as aligned with the shift, it needs to feel connected in an intuitive way, that is embedded or related to a specific moment or situation. As an example, a religious shift in one's life goal towards serving God can be started by liking certain rational arguments in the bible that lead one to change one's self-image and want to put oneself in the service of God. That does not translate to a full shift in the self; the self can still feel out of place in a church, emotionally disconnected from God, or not passionate about worship. It needs to experience new situational knowledge of how this context relates to themselves, which is mostly learned by actually doing something, not just thinking about it. In its fullest form, the shift of perspective over the self, experienced as harmony of the self with the desired shift, is only gained through repeated participatory knowledge, which leads to the last form of knowing.

### 3.4 Participatory knowledge (knowing-by-being)

Participatory knowledge is grounded in consciously experiencing one's action and immediate embodied experience in relation to an Umwelt (as a predictive map of the environment of what is meaningful to you and your goal) that co-emerges with oneself and one's actions. It is considered the most profound form of knowing and is often found in the context of

relationships, culture and community dynamics. (Henriques 2021; Vervaeke 2025) In those we have a clear goal often propositionally agreed upon, we have a ritualized physical enactment (procedural) that often bears a symbolic representation of the propositional principle targeted. We can find that synchronized in a specific knowledge of a social context with other people (perspectival). It unites the other forms of knowing, making participatory knowledge the foundation for a holistic sense of the self and the formation of an identity. (Henriques 2021; Vervaeke 2025)

Biopolitical subjectification can take the form of participatory knowledge. The subject is grounded in the other forms of knowing as established, having learned automated responses and patterns of thoughts (propositional), and movement (procedural) tied to an immediate (often social) context (perspectival). The true adaptation of a subjective, or process of becoming a subject, is not a clear categorial switch. Just like the capacity for freedom, it is a gradual process. Whenever we experience how we are being shaped by our Umwelt, which in a biopolitical state encompasses the truth discourses, bodily discipline and cultural and societal felt expectations, we find ourselves participating in the creation of our self in line with these three aspects and we are adding one experience of the self, as a subject. In that sense, we become what we experience or enact over time.

Participatory knowledge, if aligned with the concepts of freedom, self-determination or simply any value, is key to experiencing the process of becoming and creating the self and therefore key to our freedom. We need the propositional understanding of our freedom, the felt physical enactment of it so we are emotionally engaged which harmonizes thoughts and feelings, we need a perspectival understanding of the self, allowing ourselves to render the self in many different possibilities, we can then enact the self participatorily within a community, culture or relationship where we experience the different forms of knowing the self as realized within a given environment, allowing us to feel true agency when we observe how our conscious will affects us.

### 3.5 Grounding the 4P model in 4/5E Cognitive Science

In order to demonstrate the academic robustness of the 4P model, it is important to ground it in the scientific paradigm it is built on the 4/5E framework of cognition. The classical four E's, which are embodied, embedded, extended and enactive, have been updated by some researchers

to include the emotive/affective capacity for cognition, which is why I will refer to it as 4/5 E model of cognition. The framework challenges traditional views of cognition such that cognition is an abstract, internal, and disembodied process, instead redefining the mind as deeply integrated with the body and its environment (Gallagher 2017, 43–47, 150–59; Hovhannisyan and Vervaeke 2021, 347)

The 5E model of cognition is directly linked to the framework of Jaeger at all (2024) of autopoiesis and provides a theoretical robust and complex paradigm: "the immanent teleology of the autopoietically embodied human mind is like that of the cell: it is also necessarily embodied, enactive, embedded, extended, and affective" (Hovhannisyan and Vervaeke 2021, 347). The claim is that human cognition works on the same principles of self-organization and learning as a basic cell or bacterium: It has a biological form and is therefore embodied, it is enacted due to sensorimotor activity, embedded since it pragmatically situated in its environment (based on relevance realization also semiotically embedded, by rendering its Umwelt instead of the entire environment), it is extended into and by the world due to the fact that it absorbs and manipulates its environment but can also be influenced by it and it is emotive or affectively motivated to act and react at all (Gallagher 2017, 28, 40–43, 150–59; Hovhannisyan and Vervaeke 2021, 347).

John Vervaeke's 4P model builds directly upon the research in 4/5E cognition, he conceptualized the 5E's into knowledge dimensions that are more comprehensive and intuitive for a wider audience and his interdisciplinary field. It can be demonstrated how the 4P's are grounded in the 4/5E model:

**Embodied Cognition (1st E):**

The physical body and its sensorimotor capacities form a vital part of our life and is managed through our cognitive capabilities. Vervaeke's procedural knowledge maps well onto this "E"; it refers to skills, habits, and motor patterns that are inherently physical and learned through bodily action. Participatory knowledge is, by definition, embodied, emerging from an immediate experience that co-emerges with one's actions within the world (Gallagher 2017, 40-43; Hovhannisyan and Vervaeke 2021).

### **Embedded Cognition (2nd E):**

Cognition works by situating and constantly updating context it gets from its environment, from this situatedness arises the Umwelt. The cognition is embedded in a basic material substrate and can render it but for complex animals, the rendered Umwelt can include the “perspectives” of other animals and so be situated in a social environment too. This relates to perspectival knowledge, which states that we have the ability to gain understanding of others and our own situatedness and relatedness and calculate switches in these relations based on different perspectives (Gallagher 2017, 40-43; Hovhannisyan and Vervaeke 2021).

### **Extended Cognition (3rd E):**

Cognition extends itself beyond its own brain and body using external tools and social structures. Just like animals use tools and can have “extended bodies” so can humans and smart animals have an extended cognition by using tools to memorize important things or having a pack, family or hive that distribute cognitive important calculations of care, food localization or defense among themselves. In this sense our cognition extends itself in the world but also vice versa, we can be a tool to cognize for others too, forming links allowing information of all kinds to be transferred (emotional, factual, perspectival, procedural) (Gallagher 2017, 80-82, 187-197). In terms of the 4P model knowledge can be gained through extension but the 4P’s in themselves refer to knowledge one carries inside one but the 4P model is still connected to extended cognition: One can know propositionally that more knowledge is available in extended memory containers, such as books or in the internet. There are arguments that count knowledge of systems of signs and symbols as extended knowledge, connecting the extended cognition deeply to the propositional knowledge (Gallagher 2017, 80-82, 187-197). The perspectival knowledge is formed because it is extended into the social sphere and formed collectively, like the atmosphere and behavior at a funeral, despite it being experienced only locally. Procedural knowledge we apply is constantly referring and integrating external tools, operating any device or tool we use is a demonstration of that.

### **Enactive Cognition (4th E):**

Cognition develops through action and its functions is there in order to allow action of an organism. These actions are always in coordination with an environment, initiated from a body and can involve extended tools. It is in the concrete execution of any action that cognition forms and evolves. It is therefore enacted. In that sense enactivism states that cognition is a continual process of sense-making, where the organism and its environment mutually specify each other through continuous interaction (Gallagher 2017, 40-43; Hovhannisyanyan and Vervaeke 2021). Participatory knowledge integrates the enacted part of cognition since it states that this form of knowing is demarcated by the experience of the organism to actively shape and be shaped by the environment and in addition reaches higher depth the more other forms of knowing are engaged.

### **Emotive/Affective Cognition (5th E):**

The rather new edition by Gallagher (2017) makes this model even broader, stating that emotions and affects are fundamentally constitutive of our perception, decision-making, and motivation. Gallagher noted fear, fatigue and other regulatory emotions which have evolved as answers to concrete biological issues. Lower affects and more complex emotions are the direct tool of our body to signify the relevance of a given perceived object. So can an apple appear larger and redder when somebody is hungry (Gallagher 2017, 151). The emotive aspects of our cognition are a vital addition to a more complete understanding of it and fit seamlessly into the already established link by Jaeger et al (2024) between inner goals, perception, semiotically generating the Umwelt, and action. The emotive cognition can underpin especially perspectival and participatory forms of knowledge, though it is connected with all four (Gallagher 2017, 150–159; Jaeger et al. 2024). Perspectival knowledge can heavily influence our emotional states, allowing us to feel empathy and understanding, not just propositionally how other people are feeling, but understanding them by genuinely feeling with them. Vice versa, can emotional states limit our perspectival knowledge, being angry, for example, can mean that we are focused on somebody who hurt us, trapping us in our current angry perspective (Gallagher, 150–159; Hovhannisyanyan and Vervaeke 2021; Jaeger et al. 2024; Vervaeke 2025). Participatory knowledge, as the most inclusive form of knowing, is usually experienced very emotionally, our hormone reward system is built upon seeing us

progress towards a certain goal, deep learning and connecting with our peers. Transformative experiences are often awe-inducing or feel meaningful, marking how our emotive cognition evolved along systems that reward relevance realization (Hovhannisyan and Vervaeke 2021; Jaeger et al. 2024; Vervaeke 2025).

By grounding the 4P model in 4E/5E cognition, it reinforces the scientific validity and highlights the interdisciplinary relevance of using Vervaeke's framework to analyze Foucault's technologies of the self and the formation of a free agent. The traditional 4/5e model is presented comprehensively here; it is vastly more complex when one needs to situate it with nuance in its field. The four ways of knowing are translated and are more directly applicable to concrete human-centered interventions and practices.

### 3.6 Theory to practice

The paper started by establishing two problems within biopolitics: The general issue of biopolitical subjectification hijacking our freedom and self-determination and the internal divide over the possible forms of resisting it. The contemporary scientific model of agency (Jaeger et al. 2024) was presented in order to validate a philosophical premise (the potential for freedom from biopower) and grounded at the same time the analytical framework from cognitive science (4P model from Vervaeke) to structure and provide a scientific and technical exploration and terminology. That terminology will enable to see how and why the practical solutions explored (Foucault' care of the self) may indeed work.

One important demarcation, as this is an embodied theory and Foucault rejects the idea of an essential "Self," is that knowledge over the self should be understood only as akin to a process where the self constantly shifts relationships with itself and the environment. It is not fixed knowledge, nor can it ever be complete. This shows how the philosophical issue and explored solutions are ontologically compatible with the scientific framework, since both agree to seeing the self as an embodied process, not a fixed entity to be known in its finality.

The next section will bring the theoretical framework into action, by means of conceptual analysis, it will be researched whether Foucault's ethics of self-care are supported by the theoretical framework of both natural agency and the 4P model. If the application yields reasonable insights and shows convincing conceptual compatibility between the concrete historical practices and the proposed underlying mechanisms of cognitive science, it would

show that interdisciplinary approaches in biopolitics can be fruitful in developing not only theoretical insights (possibility of freedom) but are also valuable for operationalizing practical interventions for biopolitical issues.

## **4.0 Foucault's Ethics of Self-Care and Technologies of the Self: Across Four Dimensions of Knowing**

This section will focus on technologies of the self, concrete practices and exercises that will help with the facilitation of a free and self-determined self. Michel Foucault's later work on the ethics of self-care and technologies of the self will serve as a solution to the established problem of subjectification in sections 1.0-1.3. His approach, while grounded in his historical analysis, will be paired with the 4P model. Foucault reviews and analyzes philosophical streams in ancient Greek up to early Christian culture, within this historical analysis, he highlights concrete practices or technologies of how people took care of themselves. The 4P model can provide a systematic breakdown of different or even the same practices and can serve as a guiding note to see how and under what forms of self-knowledge a practice will facilitate a new active relationship with the self.

### **4.1 Introduction to the Care of the Self (*Epimeleia Heautou*)**

Foucault's later works, such as *The Courage of the Truth* (Foucault 2011), *Technologies of the Self* (Foucault 1988) and *The Care of the Self* (Foucault 1978), mark a shift in the focus of his historical analysis from the technologies of production, signs and power to the technologies of the self. He discovers a new form of subjectification, one where technologies are not externally oppressing and controlling the subject, but one where the subject is presented with tools of liberation. This emphasis on active self-formation stands in contrast to the passive subjectification described in earlier sections and is in alignment with the concepts of a free agentic self presented in sections 1.0 to 1.3. He explores these ancient texts and enumerates what different practices different schools of thought had produced and why. He does not offer the answer or the ultimate guide as a solution; he simply explores these different technologies of self and leaves us to be inspired by them, providing a general and open invitation for an ethical project of self-care and truth-telling by means of mastering the self. This is how this section

will treat the different practices that will be named below, as a possible source for inspiration, and a wide range of possible tools to be picked up in one's life practice.

The "care of the self" is a fundamental philosophical attitude and a set of continuous practices aimed at self-transformation and self-mastery as can be seen in Foucault's analysis of sexual regimen: "Hence, we could say that the attention paid to sex was part of the more inclusive care of the self whose goal was something like temperance or the achievement of self-control" (White 2014, 491). Self-control and the facilitation of such in itself already presents a reflexive relationship where the self actively shapes the self, serving as the origin for all ethical work (Foucault 2011, 273). This is contingent on basic ethical theory; ethical evaluation of any action requires a moral agent that knows what he is doing and is accountable (Talbert 2019).

The care of the self is the enabler of a character, gaining control over oneself in order to put one's life in active harmony with higher values and in service of the public. "And all of this was for the good of the community as well as the perfection of the individual self" (White 2014, 491). The care of the self must not be understood as either narcissistic nor altruistic, the care of the self enables care for others since it makes one capable of taking care (practically capable) and of caring (emotional care)(Foucault 2011, 273).

Foucault offers critical insights into what is often common and shared between the different practices of the Self. Foucault discerns that the different forms of truth-telling and self-care had in common that they were lived, embodied practices that were shared in a social setting, serving the public and devoted to higher virtues (Foucault 1978, 51; Foucault 1988, 20, 24).

In the modern philosophical traditions and evaluation of ancient Greek philosophy, the ancient Greek concept of *epimeleia heautou*, or the "care of the self" as Foucault argues, was or still is often mistakenly overshadowed by the Delphic maxim "Know Yourself" (*Gnōthi sauton*). He argues that the care of the self went hand in hand and embedded a knowledge of the self and allowed its constitution: "In Greek and Roman texts, the injunction of having to know yourself was always associated with the other principle of having to take care of yourself, and it was that need to care for oneself that brought the Delphic maxim into operation" (Foucault 1988, 20). This aligns deeply with Vervaeke's four ways of knowing since the "Know Yourself" is often reduced to its propositional face value and Vervaeke states that this focus on the propositional in the west excludes essential forms of knowing that are grounded in embodiment, community and active participation in the process of shaping the world around

somebody (Henriques 2021; Mastropietro and Vervaeke 2024; Vervaeke 2025). In this sense, Vervaeke and Foucault criticize a very similar notion and both show in their own way how crucial other gateways of knowing are for a healthy human.

In the following conceptual analysis, the various practices of the care the self, that Foucault establishes in his later works, will be conceptually compared and categorized under to the four ways of knowing, establishing how a practice technically establishes a certain kind of knowledge and how that relates to the knowledge of the self and the formation of the self.

## 4.2 Technologies of the Self: Shaping the Self Through Propositional Knowledge

Propositional knowledge of the self consists of ideas relating to oneself and becoming aware through rational deliberation of the relationship one stands to these ideas. It can also include a conceptual understanding of the self, like seeing oneself through the lens of a given framework. The Johari Window (Luft and Ingham 1955) can serve as a great illustration in this context. The famous concept of self-knowledge divides the knowledge of the self into four categories: the known, the hidden, the blind, and the unknown self. (Luft and Ingham 1955) Under these categories, one can conceptually investigate specific knowledge of the self in a new light, which might give rise to new insights. Knowing the facts that one has a blind self can make one reflect more on what others may know that might be useful to oneself. Knowing about the hidden self can make us conscious of why we hide things from others or that we do so at all. Then we can see our behavior reflected in a new understanding. This newly learned propositional knowledge often serves as the basis for new forms of other knowledge and changes in behavior.

Foucault explored several technologies that primarily foster this cognitive dimension of self-care:

### ***Hypomnēmata* (Personal Notebooks/Writing):**

Taking time to write a personal notebook, exchanging letters with friends, and simply taking time to write down one's thoughts were commonly promoted practices in ancient Greek and Roman culture, with the most famous example being Marcus Aurelius's Meditations. This was not an isolated case and Foucault describes this practice with the following lines: "One of the main features of taking care involved taking notes on oneself to be reread, writing treatises and letters to friends to help them, and keeping notebooks in order to reactivate for oneself the truths one needed " (Foucault 1988, 27).

This practice was aimed at discerning facts or propositions, understanding logical connections and greater truths. The social aspect mentioned is, to a limited degree, a perspectival aspect. A friend will be able to teach you new perspectives and help you come into *dialogos* but the main aim, the object of this exercise is to exchange, gain or simply retain needed truths about oneself, gaining insight into the virtues by tackling in rational debate with oneself or others to argue what it truly means to be just, courageous or wise. Writing can also serve to organize and discern one's own thoughts and interrogate one's propositions. The act of writing down one's ethical maxims, successes, and failures of a given day was a vital practice in order to reflect and be conscious of one's progress and integrity towards one's own values. With time, one will develop a physical artifact of a very personal account of one's ethical philosophy.

It was not easy to discern which portion of day one should dedicate to the practice of introspection in general. The morning and the evening are very often deemed to appropriately frame one's day, starting and ending with a reflective care of the self (Foucault 1978, 50). This cultivation of a structured, accessible knowledge about oneself represents a potential primary source for propositional self-knowing.

### **Premeditation of future Evil (*Premeditatio Malorum*):**

Foucault mentions a practice developed by the Stoics, which taught to envision the worst possible outcome of a given situation or even of one's life in general. One actively imagines this not as taking place in the future but as happening in the present (Foucault 1988, 37). This practice is not about revealing something one wishes to change, but learn how one can conduct one's life in a manner that one can embrace even the worst possible outcome. It rests on the basic Stoic proposition that the only thing we have truly control over and should worry about is our actions and how we wish to react to the world. Therefore, a stoic knows that when he envisions a bad twist of fate, that all he has to worry about is how he wants to react to it. The propositional dimension of this Stoic practice demands that one anticipates and logically prepares oneself to encounter potential evil (e.g.: poverty, illness, death). The effect is that one understands fate as a necessary contingency of life, that certain external events and general adversity are simply inevitable. Based on that understanding, one can further organize one's thoughts about possible reactions, strategies, and the limits of one's control over a given situation.

This will facilitate a calm and rational response in the present to future challenges, putting into focus one's own possibilities, instead of framing oneself as a passive victim of fate. The Cynics had a similar relationship to fate then the stoics showing that the general attitude of being accepting of a fate is deeply rooted in different Greek schools and a basic attitude to be practiced: "Cynic sovereignty establishes the possibility of a blessed life in a relation of self to self in the form of acceptance of destiny" (Foucault 2011, 308).

These practices lay the foundation for an ethical subject that actively structures its understanding of itself and its environment through conceptual and reflective work, forming the propositional foundation for self-transformation.

### 4.3 Technologies of the Self: Envelopment of the Body and the Procedural Self

Beyond propositional understanding, technologies of the self manifest as practices that specifically shape and engage the body and cultivate procedural self-knowing. These practices aim to facilitate a healthy relationship to your body and the procedural knowledge of skills and motor functions connected to your sense of self: feeling alive, feeling the body in action, in pain, and joy. It is also a feeling that one can command the self; "I make my body move", "I train it", "I can train so it obeys and serves me better". It allows for a directly felt (beyond rational understanding) sense of self-mastery.

#### **To train oneself (*gymnasia*)**

Opposed to the practices before that were all carried out predominantly in thought, *gymnasia* means to train oneself "in a real situation, even if it's been artificially induced" (Foucault 1988, 37). *Gymnasia* included the body in its practices, it was practiced by sexual abstinence, fasting and hard physical exercise. One example mentioned by Foucault is that one should be placing oneself in front of tempting dishes, not to eat them but instead call one's slave in, have him eat the delicious dishes and take the food readied for the slave instead (Foucault 1988, 37). In general, any exercise where we break patterns of the body and exercise our will and control over it is a great practice in this regard. It is aiming at facilitating a life where automated patterns of the body, the lust for sex, and the automated reaching out to eat the tasty treats are done consciously

and in control. One feels the arising impulse, feels how the response wants to be carried out, and then feels that one is capable of determining if or when one wants to give in to it. The point was not the repression of pleasures but putting these bodily pleasures and general experiences of all kinds in the service of one's bodily health and pursuit of a virtuous character. Being in control of one's relationship to food, sex and physical adversity by means of establishing concrete routines allowed for ethical principles to be enacted and experienced in one's physical being, directly generating procedural self-knowledge by means of enactment and simply lived practice of self-control and acting in alignment with ethical principles.

### **Physical Exercises and Physical Embodiment**

Philosophers of most schools acknowledged that physical health and engagement in rigorous physical training are vital for any human who wants to flourish (Foucault 1978, 51; Foucault 2011, 310; Foucault 1988, 37). Generally, this was seen as a physical embodiment of certain ideals like beauty, truth, and self-mastery: “ Stripped of all vain ornament, of everything that would be, as it were, the equivalent of rhetoric for the body, he appeared at the same time in full, blooming health: the very being of the true, rendered visible through the body“ (Foucault 2011, 310). The cynics, though devoted to principles of renouncing most physical vanities, saw the care of the body not as a narcissistic impulse but the wish for a healthy body, which was connected to truth. The ways of the life of a Cynic needed to demonstrate that it was desirable and good in all aspects, including the body: “The Cynic must lead an ascetic life, but also one of cleanliness, as the visible figure of a truth which attracts” (Foucault 2011, 310). The fact that one physically has to clean, train, and in general take care of oneself in the form of physical movements that bring about a cared, healthy, and authentically beautiful self, is procedural and enacted knowledge of the self.

### **The body, physical health, the soul and excellence of character**

In ancient Greek culture, the innate understanding that the body and soul both depend on each other was well established. Plutarch considers “philosophy and medicine are concerned with a single field” (Foucault 1978, 54). Bodily and mental sickness were

considered to be able to communicate with each other, exchanging their distress (Foucault 1978, 56). When considering procedural and propositional knowledge, this can be equated to recognizing that one does not want to commit adultery and wishes to remain faithful, which reflects a propositional understanding of why loyalty is genuinely valuable. Additionally, it involves acknowledging all the practical benefits, ethical reasons, and rational concerns. However, one can still possess automated behavior patterns and biological procedural knowledge that make one susceptible to moral failure. The body has not understood something the mind has; with that, thoughts and doubts can arise, since one experiences the body in opposition to the desired self, and especially when one seeks to correct the arising ills as stemming from the mind only, the ills will not cease. Only when the body is trained and the procedural knowledge gained that one does not need to lay with another and is capable of maintaining self-control, is it that the bodily urges seem less scary and strong in the mind. By exercising the body, established ones will over its whims, one can quiet the mind and its anxiety too.

This works the other way around as well, and this phenomenon is well known as the placebo effect. Merely believing propositionally that something will aid one's body, will be able to support its healing. Just as mental distress can cause physical symptoms, which is investigated in the field of psychosomatics.

From a philosophical and cognitive science perspective the self shows how it weaves the different fields of knowledge together, the differentiation of the different categories is helpful because they allow us to organize and understand the self in relation to behavior, experience, thoughts etc. but the self is emerging from the shared processes and synthesis of these forms of knowing. The principles of autopoiesis are echoed here once more, showing the interrelatedness of subprocesses and how they can form an impredicative hierarchy or an organizationally closed self-referential entity. Let us take a simple example that highlights how modern medicine made a grievous oversight by separating psychology and mental health from virtues and care of the soul. Despite linking mental health and physical health to each other, for modern medicine, mental health is just a sub-category of physical health, because it is ultimately still a neurological and therefore physical process. That "animating" principles of the soul, like a virtue, are fundamental in one's physical health, is hardly communicated. The Greeks exercised and maintained their physical health because their concrete actions

and behavior were informed, strived towards, and embodied virtues. This makes sense even from the perspective of Jaeger et al's (2024) relevance realization process: A higher order goal or even telos simplifies the deduction and allows perception of an Umwelt that allows us to act in accordance with a set goal. Before we can see and operate on certain things, it is vital to set our aim right. Meaning we have to internalize through the four ways of knowing a self that has its goal set on a virtuous life of self-care. If our self-understanding is informed by modern medicine, the possible actions are confined to exclude this entire dimension of self-care. We treat only symptoms, all the way up the conceptual analysis. This can arguably be true on a biological level, that we prescribe too much instead of trying to fix underlying health conditions.

Diabetes (the not genetically inherited kind), for example, or any illness that is at least strongly correlated with a particular preceding lifestyle and life choices, with those we can track why we have these sicknesses, all the way up to a lack of virtuous character and self-mastery. A lack of moral vision and strength of character can lead to choices that compromise one's health. Choices lead to internalized patterns of behavior and the self starts to experience itself as not taken care of in all its dimensions. Only when we are morbidly sick do we start to care and go seek a doctor who then prescribes us merely help in terms of a physical remedy that treats the symptoms and makes us dependent and allows us to maintain a life of vices. The Greeks understood this causality, which is why they treated the care of the self in terms of the soul and body as one and the same field. The human self is able to re-signify their inner telos and goals, it gained freedom of behavior and access to the "realm of ideas", which we can understand *naturalistically* as patterns that emerge and animate matter. It is a *natural* product of the process of evolution, perfecting our cognitive ability to predict and recognize patterns. Does that make patterns real? As real as our predictive models in science are, the atoms as we portray them are not real, but the model on which we understand their patterns and laws of behavior are. In that sense, they are real as they are useful to our telos, real in terms of meaning. In short, the Greeks understood that the human self can be managed by patterns and ideas that make up one's "soul" or cognitive self, but that is grounded in our physical self our body, both emerge out of an co-evolving interplay with each other, because they are part of the self as a totality of one's autopoietic being. These insights can support a return to a more holistic approach to healthcare, trying to address ills at the most fundamental level.

#### 4.4 Technologies of the Self: Envelopment of the Social and the Perspectival Self

Technologies of the self naturally encompass the social realm, cultural norms, socialization, the intuitive reading of body language and gaging the mood of a crowd all these things shape our relationships with each other's and foster a perspectival knowing – these are social dimensions but perspectival knowledge can be more encompassing including perspectives and thinking oneself into an animal for example or imagining virtual space and how it is arranged and would look like from different angles. It is the virtual simulation of perspectives, be it emotional, 3D-space, or cultural perspectives. The following practices aim at promoting perspectival knowledge over oneself.

##### **Meditation, Silence and Humility**

The general notion of any introspective work has the quality to change one's perspective of oneself, so the propositional practices mentioned above are also in part promoting a perspectival knowledge, but there is a fine demarcation possible. Propositional knowledge changes or deepens our concepts and abstract technical understanding of self or things that are crucial to the self, whereas perspectival knowledge changes how we perceive the self or important things related to it. Perception and understanding are distinct; the act of perception is related to the form of sight, it is immediate, grounded in a given perspective, and a viewpoint.

In this sense, meditation can be done in the traditional Greek conception, focusing on logical discernment, recollection of truths, and fostering propositional knowledge, which is not how most people use the term nowadays. When using meditation, we commonly refer to the Eastern understanding of meditation, which gives us insight into experiencing perspectival knowing. In eastern meditation, there is often an importance placed in the quieting of the mind and experiencing a nothingness; the self or the ego is trained to retreat and diminish (Nagatomo 2024). This is itself a new perspective, a perspective of the self as dissolved, often called “ego death”, which leads for many to a feeling of great unity with the universe. In addition, this perspective will make one more receptive to other perspectives, as one will have training in quieting one's own self, to feel, listen and observe others without judgment but with a new form of understanding.

Foucault's explanation of Christian "humility" mirrors the eastern tradition of experiencing nothingness: "The Cynic asserts his sovereignty, his mastery through these tests of humiliation, whereas Christian humiliation, or rather, humility, is a renunciation of oneself." (Foucault 2011, 262). Relating to the second effect of eastern meditation, making one more receptive to others' perspectives is also disclosed in Foucault's studies: The Greek and Roman culture placed great importance on the principle of silence and art of listening (Foucault 1988, 32; Hutton 1988, 134). Though an entirely different practice, it fostered the same principle: "Socrates has that, in a sense even more important feature of wisdom, which is a particular kind of silence, regardless of everything" (Foucault 2011, 27). Socrates was silent, knowing he did not know everything, practicing himself in genuine humility and silence of his ego, and limiting himself to asking questions (Foucault 2011, 27). This is also opposed to the form of listening taught in modern schools because this form of silence is voluntarily initiated, according to the deep knowledge of the self, knowing that inner silence allows one to take new perspectives. The silence taught in modern schools is akin to a blind, externally initiated obedience, channeling mainly one perspective.

### **The mentor, the friend: being in *Dialogos***

A vital part of the care of the self was that it was a project often pursued in a relationship with others. The exchange of letters with a friend or mentor and the personal care over someone else's self-care was deemed integral to self-care itself (Foucault 1978, 52-53). It was understood as a social obligation, which in itself already is a form of perspectival knowledge because one learned to understand the "perspective" and expectations of the community towards oneself as a member of it (Foucault 1978, 52-53).

In addition, according to the Johari Window (Luft and Ingham 1955) the exchange with other people is how we can get to know the parts of ourselves that are not known by ourselves. It allows us to foster a new perspective of our self and discern patterns over time to become more sensitive to our blind spots. When two perspectives co-creatively merge into a genuine Socratic dialogue, then a unique blend of two perspectives is produced that no individual on their own can experience. This is not the interesting propositional insights one often gets when one has a fascinating conversation, but the feeling of the other person and one's own dynamic in interaction. It can be quite an

intimate and special thing that will transform one's perspective of the other person, oneself, and the relationship between them.

### ***Parrhesia* (Truth-telling/Frankness) and Management of Reputation**

The principle of "*Parrhesia*" (saying everything) (Foucault 2011, 4) is vital in our analysis of technologies of the self since: "(...) it is easy to note the great importance of the principle that one should tell the truth about oneself in all of ancient morality and in Greek and Roman culture " (Foucault 2011, 4). It is so central that Foucault devoted an entire seminar series to the courage to truth. Like all the practices presented here, there is a great deal of variety depending on different schools of thought, time periods, and even from person to person. Same goes for "*Parrhesia*", in any of its forms, it is clear that to constantly say the truth about oneself or in general about what one believes to be true about anything, is a difficult practice that will train and require self-mastery. It also goes hand in hand with the principle of knowing oneself, since how can one speak the truth about oneself when they do not know oneself.

In this instance, we speak of "*Parrhesia*" in the context of perspectival knowledge. "*Parrhesia*," which Foucault links to as a precursor to Christian confession, which was done publicly early on in Christianity (Foucault 1988, 30). I want to delineate two simple points that saying only true things will have as a consequence in regards to perspectival and general knowledge of the self.

The first example: if you lie about yourself to others, you will get a reaction from others regarding yourself, that are built on an illusion of yourself, built on that lie. They will express gestures, mood, and social clues linked to the image you present them with, even a fake one. This will form your perspectival knowledge of how others perceive you, but you know that that knowledge, their mood towards you, is not related to your actual self. In that sense, you teach yourself not to trust your perspectival knowledge, for a good reason; it is rendered unreliable since it does not actually apply to you, but only applies to the illusory version of yourself. This means if one lies enough (and they have a nasty habit of multiplying because the only way to fix a lie without confessing is to tell more lies), they will miss out on one integral source of self-knowledge, the perspectival one, which is often grounding the participatory form of knowing.

In general, for useful perspectival self-knowledge, the presented exchange needs to be truthful; otherwise, the feedback will be based on a fake construct of a self that is not real, not related to oneself. In that sense, interactions will lose their meaning for one's inner self, or the self learns that to achieve what it wants, it is worth sacrificing itself for. It is an inherently self-destructive behavior, since the self is built on being experienced by oneself in the multiple contexts of knowing oneself. If the self acts not as itself, and incoherently, guided not by ethical principle but egoistic self-gain, it will become incoherent, subdued by its static ego, and lose its ability to remain self-referential, which is one vital aspect for any living organism. Further, if one wants to care for one's self it is vital to experience that self in action, in different social perspectives, but when one lies, what one experiences is how the principle of the lie about oneself is acted out, not the self. In that sense, the self can not be trained when one lies; quite the opposite, one untrains the true self when one lies.

The second point is related to managing public relationships. The interesting relationship between managing public relations under "*Parrhesia*" is that one will transform the public space, especially if one speaks a truth others do not dare to address. One offers a perspective not only one's own, but by sharing an unspoken truth publicly, one offers others a new social perspective. The felt and internalized social norm is being interrupted and transformed into something that is interruptible. This further gives one another link to self-knowledge since it involves letting go of attachments, since one is clearly risking quite a bit when one speaks everything. In that sense, one trains a new social understanding of the self, one experiences social situations and relationships as a means to learn, express the true self and offer a space for others to join in that endeavor. In the next section, it will be explained how that is a prime example of participatory knowledge and not just perspectival.

In these practices, the self actively engages with and forms social dimensions, shaping its very relations to itself and others. The practices facilitate an integration of external perspectives into its self-knowledge. The profound engagement, with ethical action like "*Parrhesia*" within cultural/social frameworks, can also lead to deeper participatory knowledge, as one internalizes shared values and finds their core drives transforming/participating in their socio-cultural environment.

## 4.5 Technologies of the Self: Participatory Self

Participatory Knowledge is experiencing the self, in an active relationship with one's environment, in which both dynamically shape each other. It can feel like a sense of belonging or a flow state and is often, but not exclusively, experienced in social settings, when one transforms the self together with others in a sense of dynamic cooperation. A different example would be a professional surfer, he experiences this interplay, a dance where he feels, reacts intuitively to smallest changes in his immediate environment that make him adjust his weight with precision, based on his actions, the board, he and the waves are in perfect harmony and aligned with the goal of the surfer to flow over the waves. This differs from mere procedural knowledge, since it evokes a deep salience of the dynamical play between oneself and one's environment.

### **Examination of Consciousness and Premeditation of Evil - Participatory Aspect**

The Examination of consciousness and with that confession as well as the premeditation of evil are marked not only by their rational deliberative character and knowledge gain but when laid out in their totality encompass an important aspect in regards to participatory knowledge: they require one to transform one's emotional reaction in accordance with the discovery of a propositional landscape.

Foucault mentions that "The fault is not reactivated by the examination" (Foucault 1978, 62). The attitude of simply reviewing what had happened throughout the day was a strategic analysis, akin to how an administrator tries to fix an issue. He notes what could have been better, what still needs to be done and how to get there. It is a sober mind, despite dealing with one's personal failures (Foucault 1978, 62; Foucault 1988, 33-34). Something similar can be observed in the Premeditation of Evil, though here the attitude developed is actually the focus of the exercise and not just strategic development of countermeasures. The technique tries to instill emotional control by means of propositional deliberation, one explores, why even dire circumstances are not to be feared (for example because it is unreasonable and useless to worry about things one cannot control and if one can control them, one should worry about his strategy and execution, giving in to negative feelings is counterproductive), by exploring imagined scenarios, or re-viewing past faults one transforms a self that feels guilty, helpless or

anxious into a self, that is an active confrontation with these things and learns to relate and encounter them differently. The self now experiences how it actively develops answers, strategies to cope and solve the previously anxiety-provoking adversities, it focuses on what it is in control of; itself and transforms it in accordance with the challenges of the (virtual) environment. The environment is demarcated as past environments and the conceptual artifacts (memory) of one's past actions and the future environment with potential and virtual adversity. The propositional knowledge is used to encounter this environment, focusing on strategy and problem-solving through cold logic. The self experiences itself in this imagined "environment" as in control, reactive, and in a dynamic co-evolving relationship with it.

### **The ascetic life as participatory self-knowledge**

The ascetic life was mentioned in combination with procedural knowledge and many exercises grounded in asceticism's focus on the body and procedural knowledge but in the concept of an ascetic life, we have the conditions for a participatory knowing. Askesis is a lifestyle, a training for a certain kind of existence (Foucault 2011, 308). It involved the mentioned physical aspects of exercise, fasting and for the cynic often included living in poverty but it extended beyond that it was often a shared activity and cynics helped each other and served as inspiration to the public, they understood themselves being on a divine mission, serving Zeus and, they had to live in truth and in devotion to it (Foucault 2011, 308-310). The cynics are participating in the manifestation and in the literal embodiment of truth, both in their self but also through "Parrhesia" in others around them. "Parrhesia" is the ultimate aim of the cynic: to live and speak only in accordance with the truth and, through different practices, to experience truth on many different levels. To fully experience the self according to these ideals is, of course, hard work and requires dedication and self-mastery, in a genuine fostering of a truthful relationship to the self. The more genuine truth about oneself has gathered (which all the practices of Askesis and Parrhesia are aiming at) the more accurately can one re-signify and articulate the self, this allows for true freedom, despite the fact that the life itself looks relatively rigid and pre-determined by the ideal set for a cynic life as opposed to someone who follows their desires and just eats, drinks and carelessly engages in sexual pleasures. This would be a false conclusion, because by

living in truth, one defines the self and forges it into a self that is free to transform itself, by means of self-mastery. In addition, the self that knows truth, will, that is the thesis of the cynics, want the virtuous life for itself. This is how this participatory self-knowledge gained through the culmination of different practices into a lifestyle marked by a true ecology of practices, attitudes, and community benefits the liberation of the self by slowly transforming the individual's very mode of being in constant reaction and dynamic interplay with its environment.

### **Culture and Greek Drama:**

The culture of self-care in ancient Greece had its home in the philosophical schools, which were also real places where one could send one's offspring to or go oneself to be educated on different philosophies of life (Foucault 1978, 51-52). The structure of a school, a place with a community, united in aim and practice, is another potential well of experiencing the self in constant participation, with higher principles, social relations, and often physical embodiment and production of these higher principles. It is in itself not a concrete practice, though; it is a place that offers an ecology of practices, similar to the cynic life, it naturally goes beyond and includes multiple forms of knowing because the term itself is not used to describe one action. It serves as a great example of why it is possible to have powerful institutions and be integrated into a structure of liberation. One can imagine a politics aimed and devoted to self-care as its goal, building schools and using new technology in the service of liberation.

There is, however, one thing missing in Foucault's exploration of technologies of the self, when one considers what Vervaeke calls a crucial example for participatory knowledge: Art. Vervaeke considers dancing or singing in a group as the perfect example of participatory knowledge. They serve as an example of a singular activity and highlight the importance of being in flow and a sort of synchronicity with oneself, others, one's environment, and inner goals. (Vervaeke 2025) This free, intuitive understanding of self as an expression and celebration of one's emotions is missing from the technologies of self. One could argue based on Del Caro's (2012) account on Nietzsche's "The Birth of Tragedy", that this disappearance is connected with the "victory" of Appollo over Dionysus as a metaphor, for the Socratic philosophy favoring an era of rational, abstract and heavenly motives, whereas before, embodied in the Greek

tragedy, the two shared the cultural importance equally and came together in the Greek drama (Del Caro 2012, 57-59). The emotional intuitive self equally needs a practice where it can be encountered and integrated into the self, meaning experienced by the self. The Greek tragedy is a potential practice of participatory knowledge of the self. For Nietzsche, the Chorus is the vital distinction of later dramas on stage and key to a shared access to a well of emotional depth, which shared experience could foster a profound form of self-knowledge and social bonding: “What emerges from this detailed analysis of the function of the chorus is the vitality of tragedy as a physical and emotional response to a physical and emotional need” (Del Caro 2012, 63). The Chorus was made up of the Satyr associated with Dionysus, representing raw life and nature and “the language of the satyr would come into play, a language consisting of gestures and dance” (Del Caro 2012, 63). The participation with the chorus would have then fully satisfied the conditions for participatory knowledge as one unites procedures (the dancing), the awareness and experience of the dancers and their emotions and positions, within a logical frame (story of the drama) creating actively but also dynamically a transformation of one’s environment (creating the immersive illusion of the story and transforming the audiences emotional state).

These practices constitute the grounds for participatory knowledge of the self; they engage the self in a re-shaping of its intentionality, fundamental mode of experiencing and acting in the world, while reacting to its environment and experiencing a co-evolving dynamic between them.

## **5.0 Interpretation of research results and delineation of limitations and possibilities**

The various technologies of the self, as explored through these four dimensions of knowing (propositional, procedural, perspectival, and participatory), showed that they are not isolated techniques but interconnected components and grounded in the self as a coherent and binding totality. They collectively form a comprehensive strategy for active self-constitution. It is through this continuous engagement with these diverse practices that individuals can

systematically get to know and work on themselves, achieving degrees of self-mastery and genuine freedom across their cognitive, physical, social and psychological dimensions and gain insights into their self across different modes the self exists in and can know itself to be. This allows for a self that forms a concrete vision and reflective relationship with one's guiding principles and the means to embody them. This holistic process of self-formation, underpinned by the very possibility of natural agency and embodied cognition, arguably fosters the two vital skills (self-knowledge and self-mastery) needed to gradually resist biopolitical subjectivation as established in sections 1.0 to 1.3.

The synthesis showed how the technologies of the self allow for a clean categorization within the four ways of knowing. The practices included multiple aspects of human cognition, including knowledge and facilitation of skills in terms of procedures, logical propositions about oneself, and useful concepts that one utilizes to orient oneself, such as contemplation on virtues. The technologies also showed how they are embedded in social structures with shared practices and goals of self-care, providing perspectival and participatory knowledge.

The technologies clearly lacked one dimension: the deeply emotional and intuitive aspect of our cognition, which we can find in perspectival and participatory knowing and the 5<sup>th</sup> E, the emotive cognition. The exploration in "Culture and Drama" on page 48 shows the limitations of the technologies: the mastery of more raw and wild explorations of emotional states of the self, but also shows how the framework can successfully account for missing dimensions of knowing.

The synthesis produced occasional new insights, such as the connection of lying and speaking the truth to self-formation explored on pages 44 to 45 and the connection of a virtuous life and care of the soul with the body and physical health.

As a reflective counter-argument to the entire premise of the scientific grounded ontology of a free agent, it has to be made clear to the reader that this was merely one possible line of inquiry one might have undertaken. It stands to reason that a counter-analysis based on the more popular theories of agency in terms of computationalism could provide an opposite ontology and scientific foundation that would convincingly list and lay out reasons why we are unfree and deterministic agents, supporting the contrary solutions of liberation from subjectification. Even then, the question of reification of unfreedom remains a possible threat.

Ultimately, the thesis still showed an original step forward for the field by applying a novel interdisciplinary methodology in the creation of practices of liberation and self-

formation. It also presented new theoretical avenues for understanding subjectification in terms of our semiotic abilities and providing a fitting naturalistic framework of the self as an embodied cognitive agent.

## Conclusion

The thesis addressed an important and relevant issue recognized in biopolitical theory and ever more so by public and scientific inquiry: The issue around how agency and our very freedom are threatened by systems and technologies that undermine our ability to self-determine who we want to be. The thesis presented several angles and evidence on how this issue manifests itself in our society, providing concrete examples and biopolitical explanations. That is why several answers in an effort to meet the issue of subjectification have been formulated in this thesis.

The first one was to establish the concept of subjectification and provide a reasoned account for two vital skills that foster agency: self-knowledge and self-mastery. It was further demonstrated how contemporary accounts within biopolitics further undermine agency by reifying an inherent unfreedom and dependency on external circumstances, making them effectively take a computationalist stance. In order to provide a convincing and naturalistic alternative ontology of agency that, at the same time, functions as the foundation for later practices, the theory of agential emergentism has been established. It was connected to how free agency is possible and how biopower uses our semiotic freedom to self-determine ourselves as unfree.

To provide a possible and tangible alternative form of resistance to the ones presented the thesis showed successfully that John Vervaeke's 4P model of knowing, which is grounded in 5E embodied cognition, can be applied to Michel Foucault's later work on the "care of the self" to present a systematic and plausible ecology of practices for creating a free and self-determined agent.

After the 4P model of Vervaeke was credibly established in connection to 5E cognition, Foucault's exploration of the ancient technologies of the self could be analyzed in terms of the four ways of knowing. This synthesis established the conceptual compatibility and demonstrated how these practices function to cultivate a free agent: *hypomnēmata* (writing)

structures propositional knowing; *askēsis* (physical discipline) trains procedural knowing; dialogical and truth-telling exercises (*parrhesia*) develop perspectival knowing; and a structured ascetic life and general aim of an embodiment of ethical principles within a community, integrate these into a transformative participatory knowing. Foucault's care of the self reorganized the agent's relationship with the world and themselves by holistically developing their capacities for self-knowledge and self-mastery across all four dimensions of knowing. Resistance to subjectification is reframed as a practical, embodied, and learnable ethical project.

Beyond this new interdisciplinary angle and the operationalization of practices of resistance, the thesis provided also novel insights like how lying and truth telling undermine and support self-formation on a very technical level, allowing for a new avenue of research that can investigate how knowledge over self-formation could include a reasoned account for moral knowledge, able to explain why lying is ethically wrong since it undermines directly one's capacity for agency and therefore any other moral action. A secondary discovery was how the pursuit of virtues and self-mastery is part of the medical field, as many ills and many preventive interventions to medical ills are grounded in the will and strength of will to live a healthy life.

Considering that all four ways of knowing could be conceptually mapped onto the entire range of practices of self-care and the presented practices provided a true ecology that showed how the different practices fill different important roles in fostering self-knowledge in so many different aspects of human life and understanding, the thesis gave a plausible first ecology of practices that could help with resisting subjectification and foster free agency.

It must be added that this was merely a conceptual investigation and first exploration of how biopolitics could utilize cognitive psychology and other research fields in order to generate new and practical solutions to biopolitical crises. An empirical review of available studies on agency, value-awareness, mindfulness practices and virtue-oriented lifestyles could further this line of research, showing whether further empirical research could prove to be fruitful. In addition to or after such reviews, new studies utilizing the 5E cognition models could try to monitor some of the mentioned practices, model agency and determine if these practices are able to facilitate it.

Alternatively, computationalist models can also be empirically tested to determine whether the opposing ontology and possible related interventions prove to aid or hinder the facilitation of

agency, providing possible new arguments and insights for the biopolitical debate around agency.

Beyond any academic significance, I would like to conclude that grounding Foucault's technologies of the self in embodied cognition offers a tangible framework for individual empowerment. The thesis highlights a path of resistance to large-scale systems of control that is born out of oneself and the cultivation of self-awareness and self-mastery. In an era of growing choices yet dwindling power to resist systematic manipulation, the revitalization of these ethical practices offers a pragmatic pathway towards reclaiming the agency that biopolitical forces seek to manage and contain.

## References

---

Brigandt, Ingo, and Alan Love. 2017. "Reductionism in Biology." In *Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Spring 2017. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/entries/reduction-biology/>.

- De, Debasmita, Mazen El Jamal, Eda Aydemir, and Anika Khera. 2025. "Social Media Algorithms and Teen Addiction: Neurophysiological Impact and Ethical Considerations." *Cureus* 17 (1). <https://doi.org/10.7759/cureus.77145>.
- Del Caro, Adrian . 2012. "2: The Birth of Tragedy." In *A Companion to Friedrich Nietzsche : Life and Works*, edited by Paul Bishop, 54–79. Rochester, N.Y.: Camden House.
- Foucault, Michel. 1978. *The Care of the Self : Volume 3 of the History of Sexuality*. Translated by Robert Hurley. New York: Pantheon Books.
- . 1988. "Technologies of the Self." In *Technologies of the Self a Seminar with Michelle Foucault*, edited by Luther Martin, Patrik Hutton, and Huck Gutman , 16–49. London: Tavistock.
- . 2011. *The Courage of the Truth (the Government of Self and Others II)*. Edited by Gros Frédéric . Translated by Graham Burchel. New York: Palgrave Macmillan.
- . 2013. "Right of Death and Power of Life." In *Biopolitics: A Reader*, edited by Timothy Campbell and Adam Sitze, 41–60. Durham, NC: Duke University Press.
- Gallagher, Shaun. 2017. *Enactivist Interventions Rethinking the Mind*. Oxford University Press.
- Gutting, Gary, and Johanna Oksala. 2019. "Michel Foucault." In *Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Spring 2019. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/entries/foucault/#HistPris>.
- Hamilton, William J. 1980. "Do Nonhuman Animals Commit Suicide?" *Behavioral and Brain Sciences* 3 (2): 278–79. <https://doi.org/10.1017/s0140525x00004830>.
- Hardt, Michael, and Antonio Negri. 2000. *Empire*. Cambridge, Massachusettes: Harvard University Press.
- . 2009. *Multitude : War and Democracy in the Age of Empire*. New York: The Penguin Press.
- . 2013. "Biopolitical Production." In *Biopolitics: A Reader*, edited by Timothy Campbell and Adam Sitze, 215–36. Durham, NC: Duke University Press.
- Henriques, Gregg . 2021. "John Vervaeke's Brilliant 4P/3R Metatheory of Cognition | Psychology Today." *Www.psychologytoday.com*, January 7, 2021. <https://www.psychologytoday.com/us/blog/theory-knowledge/202101/john-vervaeke->

s-brilliant-4p3r-metatheory-cognition.

- Hovhannisyán, Garri, and John Vervaeke. 2021. "Enactivist Big Five Theory." *Phenomenology and the Cognitive Sciences* 21 (August): 341–75.  
<https://doi.org/10.1007/s11097-021-09768-5>.
- Hutton, Patrik. 1988. "Foucault, Freud, and the Technologies of the Self." In *Technologies of the Self a Seminar with Michelle Foucault*, edited by Luther Martin, Patrik Hutton, and Huck Gutman, 121–41. London: Tavistock.
- Jaeger, Johannes, Anna Riedl, Alex Djedovic, John Vervaeke, and Denis Walsh. 2024. "Naturalizing Relevance Realization: Why Agency and Cognition Are Fundamentally Not Computational." *Frontiers in Psychology* 15 (June).  
<https://doi.org/10.3389/fpsyg.2024.1362658>.
- Jakob Von Uexküll, and Thure Von Uexküll. 1992. *Jakob von Uexküll's a Stroll through the Worlds of Animals and Men*. Berlin U.A.: Mouton De Gruyter.
- Kramer, Adam D. I., Jamie E. Guillory, and Jeffrey T. Hancock. 2014. "Experimental Evidence of Massive-Scale Emotional Contagion through Social Networks." *Proceedings of the National Academy of Sciences* 111 (24): 8788–90.  
<https://doi.org/10.1073/pnas.1320040111>.
- Lemke, Thomas. 2011. *Biopolitics : An Advanced Introduction*. New York: New York University Press.
- Longo, Giuseppe. 2011. "Reflections on Concrete Incompleteness." *Philosophia Mathematica* 19 (3): 255–80. <https://doi.org/10.1093/philmat/nkr016>.
- Love, Todd, Christian Laier, Matthias Brand, Linda Hatch, and Raju Hajela. 2015. "Neuroscience of Internet Pornography Addiction: A Review and Update." *Behavioral Sciences* 5 (3): 388–433. <https://doi.org/10.3390/bs5030388>.
- Luft, Joseph, and Harrington Ingham. 1955. "The Johari Window, a Graphic Model of Interpersonal Awareness ." *Proceedings of the Western Training Laboratory in Group Development*.
- Maroney, Owen. 2009. "Information Processing and Thermodynamic Entropy." In *Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Fall 2009. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/entries/information-entropy/>.

- Mastropietro, Christopher, and John Vervaeke. 2024. *Awakening from the Meaning Crisis*. Story Grid Publishing LLC.
- Mik, Eliza . 2024. “13 - Algorithmic Exploitation of Consumers.” In *The Cambridge Handbook of AI and Consumer Law*, edited by Larry A. DiMatteo,. Cambridge University Press. <https://doi.org/10.1017/9781009483599>.
- Nagatomo, Shigenori. 2024. “Japanese Zen Buddhist Philosophy.” In *Stanford Encyclopedia of Philosophy*, Fall 2024. <https://plato.stanford.edu/entries/japanese-zen/>.
- Nagel, Ernest, and James R Newman. 2001. *Gödel’s Proof (Revised Edition)*. New York: New York University Press.
- O’Connor, Timothy, and Hong Yu Wong. 2015. “Emergent Properties.” In *Stanford Encyclopedia of Philosophy*, Fall 2024. <https://plato.stanford.edu/entries/properties-emergent/>.
- Petropoulos, Georgios. 2022. “The Dark Side of Artificial Intelligence: Manipulation of Human Behaviour.” *Bruegel Blog* (blog). February 2, 2022. <https://www.bruegel.org/blog-post/dark-side-artificial-intelligence-manipulation-human-behaviour>.
- Preti, Antonio. 2007. “Suicide among Animals: A Review of Evidence.” *Psychological Reports* 101 (3): 831–48. <https://doi.org/10.2466/pr0.101.3.831-848>.
- Puumeister, Ott. 2019. “Biopolitical Subjectification.” *Sign Systems Studies* 47 (1/2): 105. <https://doi.org/10.12697/sss.2019.47.1-2.04>.
- Talbert, Matthew. 2019. “Moral Responsibility.” In *Stanford Encyclopedia of Philosophy*, Fall 2024. <https://plato.stanford.edu/entries/moral-responsibility/>.
- Vervaeke, John. 2019. “Ep. 1 - Awakening from the Meaning Crisis - Introduction.” Online lecture. *YouTube*. January 22. [https://www.youtube.com/watch?v=5418\\_ewcO1Y](https://www.youtube.com/watch?v=5418_ewcO1Y).
- . 2025. “What AI Can Never Be .” Online lecture. *YouTube*. May 30. <https://www.youtube.com/watch?v=HAJclcj25uM>.
- Vervaeke, John, and Leonardo Ferraro. 2013. “Relevance, Meaning and the Cognitive Science of Wisdom.” *The Scientific Study of Personal Wisdom*, 21–51. [https://doi.org/10.1007/978-94-007-7987-7\\_2](https://doi.org/10.1007/978-94-007-7987-7_2).
- White, Richard. 2014. “Foucault on the Care of the Self as an Ethical Project and a Spiritual

Goal.” *Human Studies* 37 (4): 489–504. <https://doi.org/10.1007/s10746-014-9331-3>.

Witek, Kacper, Karolina Wydra, and Małgorzata Filip. 2022. “A High-Sugar Diet Consumption, Metabolism and Health Impacts with a Focus on the Development of Substance Use Disorder: A Narrative Review.” *Nutrients* 14 (14): 2940. <https://doi.org/10.3390/nu14142940>.

Žižek, Slavoj. 2013. “From Politics to Biopolitics . . . And Back.” In *Biopolitics: A Reader*, edited by Timothy Campbell and Adam Sitze, 391–411. Durham, NC: Duke University Press.