“The Body as the Guiding Thread”: Anticipations of Nietzschean Philosophy in Contemporary Neuroscience and the Study of Homeodynamics

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List of Abbreviations

BGE - Beyond Good and Evil

GM – Genealogy of Morals

GS – Gay Science

NL – Writings from Early or Late Notebooks

OTLES – Of Truth and Lie in an Extramoral Sense

TI – Twilight of the Idols

TSZ – Thus Spoke Zarathustra

Abstract

The purpose of this thesis is to answer one main question: Can Nietzsche be considered as a serious contributor to contemporary scientific inquiries regarding how it studies the body, consciousness, and human experience? Or in other words, the same question can be reformulated as such: can Nietzsche's thoughts on the body as "the guiding thread"[1] (NL 36[35]) serve as precedence to, more specifically, contemporary theories in cognitive neuroscience of consciousness and affective neuroscience, and some strands of biology -specifically the study of homeostatic processes in relation to cultures, language and the body- that hold strong dynamic embodied views, championed by philosophically inclined scientists such as David Eagleman and Antonio Damasio. It is my understanding that Nietzsche's speculative scientific thinking was insightfully correct in relation to the studies of the aforementioned scientists. Günter Abel's model of continuum will serve as the framework and method to this investigation, which establishes that there is "a continuous spectrum of what exists or occurs, from the most extreme limit of the inorganic, through the organic, up to mental states, consciousness, self-consciousness, cognitive and other mental activities, and human action."[2] This is to eliminate any possible dualistic interpretations in Nietzsche's texts, and to make sense when uniting Nietzsche's insights to contemporary neuroscience and biology. To support my claim, I will first delve into Nietzsche's own scientific readings, especially the influence of evolutionary embryologist

[1] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 27.
[2] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 40.

Wilhelm Roux had on him. This will set the stage for his future proclamation of the body as "the guiding thread" and will allow us a glimpse into his psychological backdrop when writing that one of his tasks is to "translate man back to nature" (BGE 230)[3]. We will then explore scientific texts that create a continuum between Nietzsche's conception of the body and all the considerations that spring out of this foundational view and how they it relates to some strands of contemporary neuroscience, and the study of biology, especially that of homeostasis, as shall be seen in Antonio Damasio's *The Strange Order of Things: Life, Meaning, and the Making of Culture*, which centers his studies of life and cultural poesies around this process of homeostasis, which he links it closely to feelings (another very important concept in Nietzschean philosophy). Throughout this thesis we will see how fruitful, up to date and anticipatory his insights on body dynamics were when compared to contemporary studies.

Keywords: Nietzsche, Science, Continuum, Neuroscience, Homeodynamics, Livewiring, Plasticity, Consciousness, Self

[3] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf Peter Horstmann and Judith Norman. Translated by Judith Norman, Cambridge University Press, 2002, pp. 123.

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“The Body as the Guiding Thread”: Anticipations of Nietzschean Philosophy in Contemporary Neuroscience and the Study of Homeodynamics

Introduction

The purpose of this thesis is to answer one main question: Can Nietzsche be considered as a serious contributor to contemporary scientific inquiries regarding how it studies the body, consciousness, and human experience? Or in other words, can Nietzsche's thoughts on the body as "the guiding thread"[4] (NL 36[35]) serve as precedence to contemporary theories in neuroscience of consciousness and affective neuroscience, and some strands of biology, specifically the study of homeostatic processes? It is my understanding that his speculative scientific thinking can provide much insight into research happening today within these fields.

To support this claim, Nietzsche's scientific readings will be delved into first, for these will set the stage for his future proclamation of the body as the "guiding thread" and will allow us a glimpse into his psychological backdrop when writing so. Throughout this work, Günter Abel's model of continuum (his interpretative proposal with respects to Nietzsche) will serve as the framework and background to the many arguments, which establishes that there is "a continuous spectrum of what exists or occurs, from the most extreme limit of the inorganic, through the organic, up to mental states, consciousness, self-consciousness, cognitive and other mental activities, and human action."[5] This operating concept will be important for this thesis for it is as close as possible to Nietzsche's desired dynamic ideas as it may get, and hence will link the arguments made here with Nietzsche's thinking more accurately.

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[4] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 27.

[5] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 40.

Applied to the realm of humanity and our conscious producing Mind/Brains, Francisco José Ramos reformulates this point clearly, when he writes that "[t]he brain emerges from culture with the same radicality as culture emerges from the brain. But culture is not the confinement of the brain, nor is the brain the headquarters of culture."[6] This lesson of the feedback/feedforward nature of the body and culture runs throughout this thesis. The purpose of this is to eliminate any possible dualistic interpretations in Nietzsche's texts, and to make sense when uniting Nietzsche's insights to contemporary neuroscience and biology.

For the purposes of this investigation, it is relevant to emphasize that if we take into consideration the model of continuum, we will have to integrate areas of history and linguistics to this "continuous spectrum" in order avoid any kind of disciplinary reductionism. But terms must be defined, and in this case how we will use the word "science" throughout this thesis will be of importance. The German word for (the rough translation of) science is "*Wissenschaft*." You see this translation when *fröhliche Wissenschaft* in German translates as *The Gay Science* in English. Problem is that in the XIX century, this word was not just limited to science, but included other disciplines as well. As Richard Schacht writes in his seminal work *Nietzsche*, when writing about knowledge in Nietzsche he "refers to what Nietzsche takes to be the sort of 'knowing' encountered in the domain of 'scientific' thought, understood in the broad sense of *Wissenschaft* (and thus encompassing but not being restricted to the 'hard sciences')."[7] It's

[6] Ramos, Francisco José. *Estética del pensamiento III: La invención de sí mismo*. Editorial Fundamentos. 2008. pp. 93 (My translation).
7 Schacht, Richard. *Nietzsche*. Routledge, 2016. pp. 89.

kind of frustrating to read that and see he doesn't expand on what this "broad sense" is, but the University of Stanford's Encyclopedia of Philosophy has an excellent entry on it:

> "The English word "science" is primarily used about the natural sciences and other fields of research that are considered to be similar to them. Hence, political economy and sociology are counted as sciences, whereas studies of literature and history are usually not. The corresponding German word, "Wissenschaft", has a much broader meaning and includes all the academic specialties, including the humanities."[8]

Hence, Nietzsche includes history and linguistics as part of his scientific studies. But the reader might ask: Why is it important to emphasize this distinction between science and *Wissenschaft*? What does the inclusion of, say, history and linguistics have to do with the scientific studies explored here in this thesis? And the answer is because the inclusion of these disciplines has a direct consequence on the study of the body for Nietzsche. Babette E. Babich explains it best:

> "Regarding the body as a complexly knowing *instrumentarium*, widely keyed to all its senses rather than merely reduced to the single privileged primacy of vision, permits an understanding of the body on the order of mind, not as a Cartesian or Lockean adjunct, but larger than what we represent to ourselves as mind. Thus Nietzsche famously defines the mind as the little reason and the body as a "grand reason, a plurality with one sensibility, a war and a peace" – the last invocation of "a war and a peace" being Nietzsche's word for the homeostasis so important in the biological sciences of his day."[9]

8 Hansson, Sven Ove. "Science and Pseudo-Science (Stanford Encyclopedia of Philosophy)." Stanford.edu, 2017, plato.stanford.edu/entries/pseudo-science/.

9 Babich, Babette. "'The Problem of Science' in Nietzsche and Heidegger." *Revista Portuguesa de Filosofia*, vol. 63, no. 1-3, 1 Sept. 2007, pp. 205–237, 10.17990/rpf/2007_63_1_0205. Accessed 6 Aug. 2021.

Nietzsche was an avid reader of scientific texts and journals, and one scientist that was the most influential for his concept of the body, Wilhelm Roux, father of evolutionary biology, plays a central role in this thesis. Nietzsche read Roux for the first time in 1881 (at the age of thirty-six, and who he re-read in 1885), and from whom he "uses specific terms of […] in part with slight modifications, to describe organic processes"[10]. This doesn't mean that Nietzsche accepted everything Roux wrote without any disagreements. Nietzsche is critical of Roux's mechanical explanations of evolution. In an article by Wolfgang Müller-Lauter entitled "The Organism's Inner Struggle", he writes that though "Nietzsche praises 'the method of the mechanistic world-view…as for the time being by far the *most honest*,' he also states that it too is practically crawling with 'teleological interpretations.'"[11] To understand why Nietzsche regards the mechanical method, though "honest", to be erroneous, one can refer to *Beyond Good and Evil*:

> "We should not erroneously *objectify* "cause" and "effect" like the natural scientists do (and whoever else thinks naturalistically these days –) in accordance with the dominant mechanistic stupidity which would have the cause push and shove until it "effects" something; we should use "cause" and "effect" only as pure *concepts,* which is to say as conventional fictions for the purpose of description and communication, *not* explanation." (BGE 21)[12]

As we can see, some of the criticisms Nietzsche levies against the "natural scientists" within this aphorism have to do with his philosophy of language. What I mean by this is that for Nietzsche the subject/predicate division, of some "thing" that "does" and action, is

[10] Müller-Lauter Wolfgang. *Nietzsche: His Philosophy of Contradictions and the Contradictions of His Philosophy*. University of Illinois Press, 2009. pp. 163.
[11] Ibid. pp. 173.
[12] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf Peter Horstmann and Judith Norman. Translated by Judith Norman, Cambridge University Press, 2002. pp. 21.

a linguistic prejudice. As Philosopher Carlos Rojas writes in his book *Del Ser al Devenir (From Being to Becoming)*:

> "[Nietzsche] believes that in the mechanistic thinking of modern science there can be no effect that isn't already included in the cause: The effect has to be at least equal to the cause."[13]

If the mechanical sciences have failed to see that the effect is already included in the cause, it is because they have fallen for the "seduction of grammar" (BGE Preface), which has a cause that then creates an effect, and which is an extension of this "thing" that "does" an action. This aspect of his philosophy of language will play an important role in this thesis, as there is mounting evidence within the field of neuroscience that have vindicated some of his insights, especially those regarding Nietzsche's criticism of the grammatical "I", consciousness, and the Self.

As we shall see, Nietzsche's philosophy is quite unique in many ways, one of which is his deviation from a "thing" based model of reality to a "process" based model of reality[14]. In other words, things are only "things" in as far as we try to make sense of them through language whose main purpose is to simplify and reify the ineffability of complex processes into discrete packages of acoustic reverberations, namely, words.

The search for the answer to the initial question is not without its limitations, of course: Nietzsche was not a researcher in the field science, but rather a science enthusiast.

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[13] Carlos Rojas Osorio. *Del Ser al Devenir : Fragmentos Desde Una Ontologia Dinamicista.* Puerto Rico, Universidad De Puerto Rico, 2001, pp. 39

[14] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 42.

Though details of how deep his knowledge on scientific matters vary[15], he had no formal training. This means that the line drawn here must take this into account if it is to be intellectually honest, and it also means that a lot of the excerpts from Nietzsche's writings will be his re-interpretation of the texts he was reading into a philosophical light. This will be investigated in the first chapter, which will deal with two main points of investigation: 1) Nietzsche's readings of the scientific texts of his time, with a special emphasis on Wilhelm Roux and his experimental embryology studies, and his purpose in doing so, and 2) how these texts lead Nietzsche to posit "the body as the guiding thread."

To the first point of the investigation, Nietzsche himself wrote that one of his tasks from a very early stage was that of uniting science with philosophy. Thomas Brobjer, in *Nietzsche and Science*, explains that as early as 1862, Nietzsche, in an essay entitled "Fate and History", "talks…of 'uniting natural science with philosophy', and writes excitedly: 'In the middle of the vast ocean of ideas one yearns for solid ground; how often, when engrossed in fruitless speculations, has the yearning for history and natural science not crept over me!'" (*HKW* 2, pp. 54, 55)[16]. We will give only a brief overview of these texts, as they have already been extensively studied by Gregory Moore and Babette Babich[17]. It will be important to focus on Wilhelm Roux's influence on Nietzsche's concept of struggle and the organism, and his takeaway from his scientific readings.

Which leads to the second point of investigation: how Nietzsche turns all his studies into ideas of his own. An example of this is that Nietzsche begins his investigations

[15] For more on this, see Wolfgang Muller-Lauter's "The Organism's Inner Struggle", where he clearly lays out the debate on how deep Nietzsche's scientific knowledge was.
[16] Brobjer, Thomas H. "Nietzsche's Reading and Knowledge of Natural Science: An Overview." *Nietzsche and Science*, edited by Gregory Moore and Thomas H. Brobjer. Ashgate, 2004, pp. 25.
[17] See Gregory Moor's Introductory Chapter to *Nietzsche and Science* and Babette Babich's "'The Problem of Science' in Nietzsche and Heidegger" in *Revista Portuguesa de Filosofia*, vol. 63.

regarding human experience and existence from the supremacy not of the mind, but of the body. In note 40[21] from 1885 of his late notebooks, he makes this explicit:

> "Starting point the body and physiology: why? - What we gain is the right idea of the nature of our subject-unity […]and likewise the right idea of these rulers' dependence on the ruled and on those conditions of order of rank and division of labour which make possible both the individual and the whole. Just as living unities continually arise and die, and eternity is not a quality of the 'subject'; that struggle also expresses itself in obeying and commanding, and that a fluid setting of the boundaries of power is a quality of life." (NL 1885 40[21])[18]

In note 5[56] (1886-1887), he takes this further, by providing an additional point to his task and methodological priority; that of stripping the body of any inherent moral sense, and of any teleological implication:

> "The phenomenon of the body is the richer, more distinct, more comprehensible phenomenon: to be given methodological priority, without determining anything about its ultimate significance."[19] (NL 1886-1887 5[56])

The body is the more "richer, more distinct, more comprehensible phenomenon" because it is immediately felt, all without the aid of consciousness. Hence why it must be "given methodological priority", this being what is meant by the guiding thread.

Since this quotation is foundational to understanding the starting point for any argument made here, a clarification to a possible objection that some might raise about using his posthumous writings must be made: It may be argued that the excerpts found in

[18] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 43.
[19] Ibid. pp. 113.

the posthumous fragments were incomplete ideas he had jotted down in his notebooks, and that hence these excerpts cannot really provide a full picture of what Nietzsche meant when talking of the body. While there has been a fierce debate on the subject, note 5[56] is remarkably similar to a quotation from *Twilight of Idols*, where he writes that:

> "It is decisive for the lot of a people and of humanity that culture should begin in the right place — not in the "soul"[…]: the right place is the body, the gesture, the diet, physiology; the rest follows from that." (TI, Skirmishes of an Untimely Man, 47)[20]

Such parallels exist for many of the posthumous writings found here. Another example is in him calling consciousness a "remainder" and "just a minor accessory" (NL 1887-1888, 11[83])[21]. This has a parallel in *Thus Spoke Zarathustra* I, 4, "Despisers of the Body", when *Zarathustra* calls conscious thought and reasoning "a little instrument and toy of your great reasoning", great reasoning here being the body and its myriad and complex processes. In all cases the argument is clear: to truly understand all human experience, we must not start with the usual method of analyzing conscious thought and supposed "conscious action", but rather the body and the processes that occur "under the hood", away from conscious phenomena.

The purpose of this first part of the investigation is to not only clarify some important concepts in Nietzschean philosophy and their origins, but to create a bridge with contemporary views in neuroscience that parallel some of Nietzsche's insights regarding the body and the brain, especially as these relate to his critiques of the Self and

[20] Nietzsche, Friedrich. "Twilight of the Idols." *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1976, pp. 552.
[21] Ibid. pp. 213.

consciousness. To achieve this, it will be important to answer a very important question: Can some of Nietzsche's insights be re-conceptualized into contemporary scientific language? To reach a plausible answer, I refer to the writings from what is considered the late era of Nietzsche, or in other words, his writings post-1882, including his posthumous fragments. Texts by the young Nietzsche that thematically relate to his mature writings will be utilized, especially his earlier concept of "plastic force", which appears in his 1874 text "On the Use and Abuse of History for Life."

The concept of plastic force is defined by Nietzsche as a "force of growing in a different way out of oneself, of reshaping and incorporating the past and the foreign, of healing wounds, compensating for what has been lost, rebuilding shattered forms out of one's Self."[22] This is akin to a contemporary notion in neuroscience known as neuroplasticity, which Zoltan Tory, in his book *A Conscious Mind*, defines as "[t]he capability to be shaped or formed (especially neuro-developmentally) by the external environment."[23] In both cases the claim is that there is a transformative and adaptable quality in how brains are affected by the external environment, that either allows them and the organism to grow and overcome its environments and obstacles, or be defeated, weaken, and wither away. The same applies to cultures, for there is a continuum that runs from the smallest of organisms to the grandest of civilizations.

David Eagleman will be one of my main allies in the quest to establish a proposed continuum between Nietzsche and neuroscience, especially through his books *Livewired: The Inside Story of the Ever-Changing Brain*, and *Incognito: The Secret Lives of the Brain*.

[22] Nietzsche, Friedrich Wilhelm. *On the Use and Abuse of History for Life*. Translated by Ian Johnston, Richer Resources Publications, 2010, pp. 3.
[23] Torey, Zoltan L. *The Conscious Mind*. MIT Press, 2014, pp. 167.

Eagleman's studies and experiments are explicitly based on the neuroplasticity of the brain (he is a professor of brain plasticity at Stanford University), and how experience and life, with a mix of genes and biology, sculpt us into who we are, not only on an identity level, but on a physical level, for as he says in the very last sentence of his book *Livewired*:

> "There is no you without the external. Your beliefs and dogmas and aspirations are shaped by it, inside and out, like a sculpture from a block of marble. Thanks to livewiring, each of us *is* the world."[24]

This "sculpture from a block of marble" is the brain being physically transformed -through new neural connections- borne from life and its experiences. In both author's terms, plasticity and plastic force must also include history and culture (Eagleman's beliefs, dogmas and aspirations) and how a people have been transformed when, for better or for worse, they begin "reshaping and incorporating the past and the foreign"[25]. It will also be discussed that, because of this fluctuating reshaping, the Self as an essence or substrate of consciousness is displaced to a Self that is instead connected to the body.

In the third chapter, Antonio Damasio's *The Strange Order of Things: Life, Meaning, and the Making of Culture* will take focus. As we shall see, Damasio departs from the purely neuroscientific perspective of the second chapter, though still connected to the established organism-to-culture continuum. He centers his studies of life and cultural

[24] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. Pantheon Books, 2020, pp. 265.
He defines livewired as a "dynamic, adaptable, information-seeking system." But a lot more will be explained in the second chapter.
[25] Nietzsche, Friedrich Wilhelm. *On the Use and Abuse of History for Life*. Translated by Ian Johnston, Richer Resources Publications, 2010, pp. 3.

poiesis around the process of homeostasis, which he links it closely to feelings (another very important concept in Nietzschean philosophy), and he defines both as thus:

> "Feelings are the mental expressions of homeostasis, while homeostasis, acting under the cover of feeling, is the functional thread that links early life-forms to the extraordinary partnership of bodies and nervous systems. That partnership is responsible for the emergence of conscious, feeling minds that are, in turn, responsible for what is most distinctive about humanity: cultures and civilizations. Feelings are at the center of the book, but they draw their powers from homeostasis."[26]

The apparent contradiction of the word homeostasis, which seems to imply a status quo in an organism's life, will be discussed, and hopefully, remedied. In other words, homeostasis would seem to imply that its main function is akin to a kind of will-to-survive, which Nietzsche criticizes when he warns us to "watch out for *superfluous* teleological principles! – such as the drive for preservation (which we owe to Spinoza's inconsistency –)." (BGE 13)[27]. This is because, and following Damasio, homeostasis is a misnomer, and a different, more fitting name for it will be utilized: that of *homeodynamics*. This better encapsulates the moment-to-moment (hence nonteleological) fluctuations that the body is subjected to and experiences as it interacts with the outside world.

A gentle balance I will try to strike is to answer the proposed questions without reducing Nietzsche to a mere "scientific thinker" with "philosophical inclinations", but rather a philosophical thinker that adopts the "questioning attitude" of scientists, by

[26] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp.2

[27] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf Peter Horstmann and Judith Norman. Translated by Judith Norman, Cambridge University Press, 2002, pp. 15
To be fair, Spinoza does not advocate for such a status quo, will-to-survive view, but instead one of growth through understanding.

utilizing one of their most prized tools, the scientific method, and applies it to philosophical inquiry. This is why Nietzsche, writing in his notebook, states that "It is not the victory of science that distinguishes our nineteenth century, but the victory of scientific method over science" (KSA 13, NL 1888, 15[51]).[28]

Hopefully by the end of this thesis, the reader will agree that Nietzsche's insights are still strikingly relevant to the fields mentioned above, and that after all the technical applications of science have been accomplished, that what follows be deep philosophical extrapolations which will have their impact not only on the ethics of the individual, but on the directions of cultures as a whole.

[28] Moore, Gregory. "Introduction." *Nietzsche and Science,* edited by Gregory Moore and Thomas H. Brobjer. Ashgate, 2004, pp.6.

Chapter 1: Nietzsche, Roux, and the Inner Struggle of the Organism

1.1 General Introduction

Gregory Moore in his book *Nietzsche and Science*, explains that Nietzsche, in an essay entitled "Fate and History", wrote that "the longing for natural science and history crept over me in the course of my fruitless speculations!", and goes on to say that "[h]istory and natural science" are "the wonderful legacies of our past, the harbingers of our future: they alone are the secure foundation upon which we can build the tower of our speculation."[29] Nietzsche was interested in the natural sciences and read many scientific books, especially those concerning biology, such as the works of Wilhelm Roux, Jacob Moleschott, and Darwin's theory of evolution[30].

Wolfgang Müller-Lauter writes in "The Organism as Inner Struggle"[31] that as Nietzsche reminisced on his "'philologist's existence" while at Basel, he realized that his knowledge "simply failed to include realities" and that his "idealities were not worth a damn." Hence, he began his studies in "physiology, medicine, and natural sciences" and did not "return to properly historical studies" until his task "compelled" him to. This "return

[29] Brobjer, Thomas H. "Nietzsche's Reading and Knowledge of Natural Science: An Overview." *Nietzsche and Science*, edited by Gregory Moore and Thomas H. Brobjer. Ashgate, 2004, pp.25

[30] A caveat must be made in saying that Nietzsche did not read Darwin directly, or at least he did not have any of Darwin's books in his library. His arguments are not against Darwin the man, but the school of thought that Darwin "created." Essentially, Nietzsche is fighting against the Darwinists of his time. As Thomas Brobjer writes, "Darwinism never seems to have fully engaged Nietzsche's interest and that he always remained a somewhat superficial and amateur commentator." For more on this, see Thomas Brobjer and Gregory Moore's *Nietzsche and Science*, the section "Nietzsche's Reading of Natural Science."

[31] Müller-Lauter, Wolfgang. *Nietzsche: His Philosophy of Contradictions and the Contradictions of His Philosophy*. Urbana: U of Illinois, 2009. Print, pp. 161

to properly historical studies" will be of utmost importance when trying to define Nietzsche's *body* as part of nature, because nature, in this context, will not mean a reductionism to any one field of study, like biology or chemistry, but it is rather to be defined as the compounding of natural sciences, history and linguistics. This includes the natural sciences, yes, but also history and linguistics. All *bodies* that constitute a culture already have the historical developments that led to the existence of that culture embedded in them, like internal scars that structure and create internal dispositions to-and-away from specific external -worldly- experiences.

1.2 Nietzsche and Science

Though more focus will be given to the influence that Wilhelm Roux and his seminal text *Kampf der Teile im Organismus* had on Nietzsche, he owes a great deal of credit to many, many others. For example the "Pole Boscovich", who Nietzsche praises in *Beyond Good and Evil* because he together with the "Pole, Copernicus", was "the greatest, most successful opponent of the visual evidence", since he "taught us to renounce belief in the last bit of earth that *did* 'stand still,' the belief in 'matter,' in the 'material,' in the residual piece of earth and clump of an atom" and who "attacked the mechanist theory of atoms and argued instead for centres of force without extension" (BGE 12)[32]. Philosopher Carlos Rojas emphasizes this point of Nietzsche's philosophy when he tells us that:

[32] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 14.

”one cannot attribute to Nietzsche the idea the existence of hard eternal substances which are unperishable : he explicitly questions them. For his qualitative physics what there is is a bronze mass of forces, and the force is And the force occurs at inextensive points (in force fields).”[33]

This idea would lead Nietzsche to affirm the language of force as more fundamental to evolution when he argued against the Darwinists of his time by saying that he is “[a]gainst the doctrine of the influence of the milieu and external causes” because “the internal force is infinitely superior; much that looks like external influence from outside is really only its adaptation from inside.” (NL 1885-1886, 2[175])[34] It is evident then that Nietzsche opted instead for a Rouxean perspective on the organism and its inner world development as a superior thesis to Darwin’s external reliance.

Nietzsche’s extensive annotations on his copy of F.A. Lange’s *History of Materialism* (1866) suggest Lange was another important influence for him. He “would make several references to materialism and scientism in his notebooks, which all seem to have their origin in his reading of Lange (and to a lesser extent Friedrich Überweg’s *Grundriß der Geschichte der Philosophie von Thales bis auf die Gegenwart*), who discusses modern materialism in detail.” Scientism (the belief that science is the only true and objective representation of reality) is something Nietzsche critiqued harshly throughout his life. There is no objective representation but only interpretation, for there is no way that reality is not mediated by language, which falsifies and simplifies, and which says more about us as a species than it does of reality.

[33] Carlos Rojas Osorio. *Del Ser al Devenir: Fragmentos Desde Una Ontologia Dinamicista.* Puerto Rico, Universidad De Puerto Rico, 2001, pp. 39

[34] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 94-95.

While Nietzsche gave more credit to science and its method than to religious speculations (and even philosophical ones), and though materialism influenced his views and writing, he was not a strict materialist. But neither was he a strict idealist. It is imperative to follow in his own footsteps and look at things in gradation, rather than absolutes. As Günter Abel puts it:

> "What we need is a non-dualistic viewpoint... [T]he organic world always already presupposes and consists in 'continuous interpretation processes' (NL 1885–6, KGW VIII.1, 2[148]), and hence always already presupposes and consists in 'intelligent' activities (in the broadest sense of the term) such as identifying, localizing, perceiving, demarcating, classifying, and estimating. This view also preserves the possibility that the 'ego/I' of consciousness and especially the 'Self' of the human body can influence organic processes—that it can, for example, influence the motor apparatus so that a particular intention can be realized through corresponding movements of the body."[35]

In "On the prejudices of philosophers", the first part of *Beyond Good and Evil*, Nietzsche attacks the dichotomic thinking of philosophers, which is the viewpoint of absolutes (for example "the problem 'of the real and the apparent World'" [BGE 10][36]). Therefore, he warned that language "cannot get over its crassness" of "talking about opposites where there are only degrees and multiple, subtle shades of gradation." (BGE 24)[37]. Because of this, Nietzsche cannot be classified as a purely idealist or materialist philosopher, since in his philosophy, they are both considered, and furthermore feed off each other (the body's "Self" and it's influence on the ego and vice versa).

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[35] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 40.

[36] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 11.

[37] Ibid. pp. 25.

There are many other scientists who influenced Nietzsche's philosophy, and Thomas Brobjer and Gregory Moore have already done a more than perfect job of analyzing them in their book *Nietzsche and Science*. But, as mentioned previously, investigative priority will be given to the work of Wilhelm Roux~~,~~ as it is from his ideas on the "inner-world" aspects of the organism that influenced Nietzsche's idea of the *body* the most, and why it then becomes the guiding thread. Wilhelm Roux is considered the father of evolutionary biology. He wrote a variety of influential scientific studies, one entitled *Der Kampf der Teile im Organismus* (1881), another one in 1892 entitled *Über das entwicklung mechanische Vermögen jeder Furchungszellen*, which translates closely to "About the development of mechanical assets of each blastomere" (blastomeres being a kind of cell created by cell division in the process of fertilization), and later in 1905, *Die Entwicklungsmechanik*, among others. Past 1889, Nietzsche never wrote nor published any other work, so Roux's writing on developmental mechanics from 1892 to 1905 did not directly influence Nietzsche, even though his idea for it stemmed from Roux's 1881 writing on the inner struggles of the organism.

Roux had philosophical leanings in his thinking of scientific matters, and we know this because his mentor, Gustav Schwalbe, "had a distaste for [Roux's] book's philosophical nature."[38] Thus, it is not surprising that Nietzsche felt an affinity towards Roux: he could be the bridge between philosophy and natural science that Nietzsche so fervently wanted to find.

Roux's main thesis in *Der Kampf der Teile im Organismus* was "to describe the relationships between cells and the development of organs in embryos."[39] This description

[38] https://embryo.asu.edu/pages/wilhelm-roux-1850-1924.
[39] Ibid.

was meant to complete what he found lacking in the picture of the Darwinian theory of evolution: the inner developmental world of any given organism. In it, he "applied the principles of natural selection and adaptation to the structures and functions of individual organisms"[40]. *Individual* is the operating word here. While Darwin was more interested in species (even his concept of genetic drift is group oriented), Roux was interested in studying the development of organisms on an individual basis[41]. In other words, Roux "had asked the right questions, starting with the most fundamental one: to what extent is a particular differentiation process 'self-differentiation,' and to what extent is it 'dependent differentiation'?"[42] Nietzsche clearly adopted this language of differentiation, when he wrote that:

> "Greater complexity, sharp differentiation, the contiguity of developed organs and functions with the disappearance of the intermediate members – if that is perfection, then there is a will-to-power in the organic process by virtue of which dominant, shaping, commanding forces continually extend these bounds of their power and continually simplify within these bounds: the imperative grows" (KSA 12:7 [9]; WP 644).[43]

[40] Hamburger, Viktor. "Wilhelm Roux: Visionary with a Blind Spot". *Springer* Vol. 30, No. 2 (Summer, 1997), pp. 229-238. JSTOR.
[41] Darwin does give credit to Roux's experiments, for he "wrote of it to the Canadian-born George John Romanes as "the most important book on Evolution which has appeared for some time." Soderstrom, Lukas. "Nietzsche as a Reader of Wilhelm Roux, or the Physiology of History." Symposium, vol. 13, no. 2, 2009, pp. 55–67., doi:10.5840/symposium200913224.
[42] Hamburger, Viktor. "Wilhelm Roux: Visionary with a Blind Spot". *Springer* Vol. 30, No. 2 (Summer, 1997), pp. 229-238. JSTOR.
[43] Nietzsche, Friedrich Wilhelm, Walter Arnold. Kaufmann, and R. J. Hollingdale. *The Will to Power*. New York: Vintage, 1968, pp. 342.

In other words, if perfection is this tendency of the organic process to increase in complexity, then there is a will-to-power in the forces that shape and streamline this process, expanding the organism's vital powers. Hence, differentiation is paramount to transcending the status-quo of any organism's desire to grow and expand. It is not enough to simply live within bounds of exact values and balance -for example, in nutrition- but rather to exceed and break these boundaries by acquiring more, outfighting your neighbor, and commanding without "intermediaries", with the sole goal being that of vital expansion. This will inevitably lead to a hierarchical structure of those who command and those who obey, both in the Nietzschean and "Rouxean" conception of the organic. For example, part of Roux's hypothesis come from his interpretation of organic development as "the strengthening of one part at the expense of another" which is the result of "its increasing capacity to assimilate nourishment. This ultimately leads to one part dominating another part and ascribing a function to it, which then regulates the organism, thereby allowing for the emergence of seemingly purposeful behavior."[44] Of this war of who becomes a function to whom (who commands and who obeys), Nietzsche writes in *The Gay Science* that "[b]efore a function is fully developed and mature it constitutes a danger for the organism, and it is good if during the interval it is subjected to some tyranny." (GS 11)[45] This can be extrapolated to mean that those functions which are weak, in the process (interval) of being assimilated by stronger parts [*teile*] must go through a hardening of its development for it to become a useful (functional) part of the whole. Nietzsche supposed this conception to

[44] Soderstrom, Lukas. "Nietzsche as a Reader of Wilhelm Roux, or the Physiology of History." Symposium, vol. 13, no. 2, 2009, pp. 55–67., doi:10.5840/symposium200913224.
[45] Nietzsche, Friedrich. *The Gay Science: With a Prelude in Rhymes and an Appendix of Songs*: Translated, with Commentary by Walter Kaufmann. Translated by Walter Kaufmann, Random, 1974, pp. 85.

be a layer deeper than the superficial "will to survive" and, in fact, he posited this hypothesis against such a will.

This is also argued by Thomas Brobjer, when he wrote that Nietzsche "disputes the claim that the main motor of organic change is the instinct for self-preservation (whether formulated as Schopenhauer's 'will to life' or Darwin's 'struggle for existence') and the passive adaptation of an organism to its external environment" and that he instead "prefers to stress an internal creative force – what he calls the 'will-to-power'", and which has the language of function re-appearing when he writes that "we could trace all organic functions back to this will-to-power." It makes sense for Nietzsche to arrive at that conclusion, for it is in every struggle that the will-to-power becomes manifest. All this talk of obedience and commanding, of a part helping or hurting the whole might suggest a reference to politics or cultural hierarchies, but this is only because, as Günter Abel brilliantly explains, there is:

> "a continuous spectrum of what exists or occurs, from the most extreme limit of the inorganic, through the organic, up to mental states, consciousness, self-consciousness, cognitive and other mental activities, and human action. The organic thus appears as the developmental and continuous preparatory stage of consciousness. Nietzsche's world is a world of such continuum-relationships."[46]

In other words, it is only natural that the inner world of struggle is mirrored in the struggles that exist in the external world, and vice versa. But it is also important to note that there

[46] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 40.

exists a feedback and feedforward loop in this internal and external struggle, with one influencing the other. Thomas Brobjer wrote that Nietzsche, from a very early age, "denies both a teleological explanation of nature" and that there is any fundamental difference between organic and inorganic matter (for they obey the same laws). If it is a feedback loop, that means that external pressures are limited in what they can do, and an organism instead survives and thrives by combining those outer experiences with the changes pressured by the internal struggle of the organic/inorganic.

One problem Nietzsche had with Darwinism is it gives too much credit to environmental influences on the development of an organism and seems to relinquish or simply ignore Roux's conception of the inner struggle of organisms and how it hardens and differentiates hierarchical structures inside of us, and ultimately out into the world. Nietzsche blamed Darwinists of inventing "that handy household remedy for bad historians, '[f]irst utility and constraint, then habit, finally instinct, even enjoyment'" (NL 1885-1886, 2 [203])[47]. This is to say, Darwinism for Nietzsche consists of democratizing and leveling life processes that are, in fact, diametrically opposed to each other - as if "power" played within the realms of fairness (utility), and as if it is teleologically looking for balance (constraint) within the life process - in lieu of differentiation and expansion which increases in its vital capacities through the "overcompensation of expended material" which fortifies the "organism's capacity to assimilate nutrients"[48], and hence of acting in a stronger and more vitally evolved way. A view from the outside, from the external world, only provides half a picture (Nietzsche would probably say even less than

[47] Ibid. pp. 98.
[48] Soderstrom, Lukas. "Nietzsche as a Reader of Wilhelm Roux, or the Physiology of History." Symposium, vol. 13, no. 2, 2009, pp. 55–67., doi:10.5840/symposium200913224.

half, for as stated before "the internal force is infinitely superior" (NL 1885-1886, 2[175])[49]).

If the idea of evolution is that changes that occur to an organism come from environmental pressures, then it adapts solely as a consequence of a will-to-survive. Said alternatively, it adapts passively to the changes the environment forces upon it, with the organism just going through the motions. In the realm of action, then, an organism would do nothing except exist for the sake of existing, which for Nietzsche would be a detrimental interpretation of life, for it would lack a key ingredient of all organic processes: the desire for growth. In humans, this drive for growth is at the foundation of the elevation of any given culture: "The conditions of every heightening of culture (of making possible a selection at the expense of the crowd) are the conditions of all growth." (NL 1885-1886, 2[128]).[50]

It must be said that Darwin never meant to say that external pressures were the only factors in evolving an organism. For example, his concept of genetic drift, which is defined as "random changes in the genetic makeup of a population"[51], plays with the other side of the coin and focuses more on the inside world of all organisms. An example of how genetic drift works is the concept of genetic bottleneck, "which happen[s] when a population shrinks, perhaps owing to a random catastrophe such as an earthquake."[52] But even this concept does not go far enough for Nietzsche since it was still an outside force that pressured evolution into taking the toll it did; not an inner struggle, but an outside coercion.

[49] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 94-95.
[50] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 84
[51] Buss, David M. *Evolutionary Psychology: The New Science of the Mind*. Routledge, 2019, pp. 7.
[52] Ibid.

It is of no surprise, then, that Nietzsche chose Roux's ideas over Darwin's. The importance Roux gave to the internal world of the organism and the struggle-processes it goes through was something akin to a playground for Nietzsche's conception of the will-to-power. So much so, that in the celebrated 36th aphorism of *Beyond Good and Evil*, Nietzsche wrote: "The world seen from inside, the world determined and described with respect to its "intelligible character" – would be just this 'will-to-power' and nothing else."[53] The world "seen from inside" refers to this intelligible character of existence; the world understood from the perspective of our instincts and passions.

This is the backdrop that will lead to one of Nietzsche's most important stances when confronted with Darwinism, life, his theories on will-to-power, and his conception of the body as "the form or translation of life with which the individual has or can have a certain kind of direct experience"[54] to its vital reality.

1.3 The Methodological Importance of the "Body as the Guiding Thread"

Nietzsche's conception and interpretation of the *body* as the methodological starting point will be of utmost importance to advance through this thesis. It is the key to understanding human reality, to do away with conceptual fantasizing about what human beings are from the reigning "conscious-point-of-view" instead of from our actual place in

[53] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 35-36.
[54]Sánchez Meca, Diego. *Nietzsche: La Experiencia dionisíaca Del Mundo*. Tecnos, 2009, pp. 121.

nature, and bring forth our developmental history, inside and out. To achieve this, it is significant to first understand what the body is for our philosopher.

It is important to make a caveat here: Nietzsche is not satisfied with a purely scientific reductionism of what the body is. The word "evolutionary" in "evolutionary biology" is important because the concept of evolution implies a dynamic aspect to the realities of all existing beings. Meaning that if the body itself is a line of organic developments that are created and interact overtime, with some growing and others diminishing, some commanding at one moment then being commanded at another, then the body is dynamic and not a "consistent-through-time" entity. If it is not a static entity but one that "suffers the slings and arrows" of life and history, then the body is not only to be studied by science but also by history and the language that allows us to recount the tales of the past.

Also, there is the problem that he never fully developed what he means when he says "body". One thing that is clear is that understanding it is of paramount importance in uncovering the history of the anthropocentric falsification of reality that disregards the importance of the body and which places consciousness as the supreme port from which to sail and discover new lands.

Nonetheless, Nietzsche begins his investigations, as mentioned, from the supremacy not of the mind, but of the body:

> "The phenomenon of the body is the richer, more distinct, more comprehensible phenomenon: to be given methodological priority, without determining anything about its ultimate significance." (NL 1886-1887, 5[56])[55]

[55] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 113.

But, what is the body for Nietzsche? To start answering this question, one must delineate a clear difference between two German concepts for the body: *Leib* and *Körper*. According to André van der Braak, in his book *Nietzsche and Zen: Self-Overcoming Without A Self*[56], Nietzsche uses the word *Leib* 532 and *Körper* 150 times. Clearly, Nietzsche prefers *Leib*. But what do these words translate to? While both these words translate to English as "body", Nietzsche's use for them is quite different. *Körper*, according to Braak, is something Nietzsche utilizes when referring to "the dualistic conception of an immortal soul within a mortal body", or a Platonic view of the body. *Leib* on the other hand Braak believed Nietzsche uses as referring to the body as "a unity of body, mind, and soul." *Leib* then is the body as a continuum composed of a line of three intertwined dimensions, where each sphere influences the other in a kind of never-ending, always becoming, feedback loop.

What this means is that, according to Nietzsche, the body is not a fixed, measurable object, as it was to the mechanistic views of a cluster of the scientific community of his day, but rather, as Rex Welshon argues in *Nietzsche's Dynamic Metapsychology*, a lived, dynamic and embodied experience: "Nietzsche's physiological account of the human body is […] consonant with thinking that the body is a hierarchically structured, self-organized, self-regulating, non-linear dynamic organism."[57] Evolutionary biologists Heather Heying and Bret Weinstein bring this point into the 21st century. They argue that the mechanistic view of the body imagines that "we are simply machines, with fixed rules and codes, rather

[56] Braak, Andre van der. *Nietzsche and Zen: Self-Overcoming without a Self*. Lexington Books, 2011, pp. 60.
[57] Welshon, Rex. *Nietzsche's Dynamic Metapsychology: This Uncanny Animal*. Palgrave Macmillan, 2014, pp. 47.

than people", and call this problem the "engineer's approach to what humans are (as opposed to the biologist's)", and that it "vastly underappreciates how complex and variable we are":[58]

> "Everyone is susceptible to this error: We look for metrics, and once we find one that is both measurable and relevant to the system we are trying to affect, we mistake it for *the* relevant metric."[59]

Seems then that mechanistic thought and its seductive reductionism of the human body to measurable and objective metrics has been successful in wooing common parlance and thought. Heying and Weinstein conclude that:

> "We are not 'finely calibrated machines.' We are embodied beings, with feedback systems between brain and body, hormone and mood, that will not be adequately understood or fixed with simple switches. Moving our bodies, as our ancestors always did without needing to think about it, has positive effects on mental health—and is a better first approach to treating mood disorders than are prescriptions."

Neither Nietzsche nor these kinds of evolutionary biologists find in the body something that can be objectified, with exact metrics every time. Even words like homeostasis are somewhat of a misnomer, which is why Antonio Damasio will prefer to use *homeodynamics* to truly appreciate the active nature of such processes.[60]

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[58] Heying, Heather E, and Bret Weinstein. *A Hunter-Gatherer's Guide to the 21st Century: Evolution and the Challenges of Modern Life*. New York, Portfolio, 2021. pp. 72-73

[59] Ibid.

[60] See his *The Strange Order of Things*. In his earlier book *Looking for Spinoza*, Damasio utilizes the word homeostasis before moving on to homeodynamics in this one. He realized that if he was to use affects and feelings to explain the way cultures develop and create new ways of being, then he was required to use a more dynamic explanation than the static nature that homeostasis (stasis being the operating word) seems to imply.

Furthermore, Nietzsche's conception of a body is one that is not only affected by outside influences, but that has an "inner-world" populated by a hierarchy of drives and instincts that only reach the conscious mind as a falsified and simplified "unity" in the form of language and egocentric perception. Rex Welshon compares the Nietzschean drives to that of Jaak Panksepp's SEEKING systems:

> "All […] preconscious cortical activity eventuates in organized perceptual and interoceptive experience of individuated and bound objects in an egocentrically structured spatio-temporal field of conscious experience. Similarly, Nietzschean drives scaffold and structure the information presented in perceptual and interoceptive experience by subjecting them to saliency filters."[61]

This view of embodiment has today been advanced by different studies in neuroscience and biological studies on homeostatic processes, which we will talk about in more depth in the second and third chapters. The body for Nietzsche is the way to most closely feel what life is. It is through our affects and the experiences that test them that we can most properly know of this vital experience. Take for example in *Daybreak* 119, wherein he asks himself if "all our so-called consciousness is a more or less fantastic commentary on an unknown, perhaps unknowable, but felt text?"[62], prompting Wolfgang Müller-Lauter to state that what Nietzsche meant to say here is that since the "underlying physiological reality" is something that is "felt", this is thus what shows its "incontestable reality", thus it seems that reality has its starting process in the somatic; in what happens to the body. It is here that the interplay between the singular and the plural has its genesis,

[61] Ibid. pp. 121.
[62] Nietzsche, Friedrich. *"Daybreak": Thoughts on the Prejudices of Morality*. Cambridge, Translated by Maudemarie Clark. Cambridge University Press, 1997. pp.120.

as well. In other words, this “felt text” is precisely our bodily experiences, for through it we experience our most immediate access to “feeling” life, and all that we build from there -our cultures, societies, the institutions that make up those societies, and everything else- is to be explained from that one fundamental methodological perspective. When we use words to explain this felt text, we make singular (give unity to) that which is plural (the multiplicity of processes that never reach consciousness).

Müller-Lauter writes that Nietzsche "re-read Roux's book in the spring-summer of 1883", which is an important fact as we can then "re-read" Nietzsche's mature works in that light, and gain further insight as to what he means when he writes things like the body is a "total economy of the soul" (BGE 20)[63], which is, as is much of Nietzsche's work, somewhat cryptic if we don't understand what Nietzsche means when he says "soul." In *Beyond Good and Evil* 36, Nietzsche gives us a good clue as to how to define such a concept, when he writes that if we “assume our world of desires and passions is the only thing ‘given’ as real, that we cannot get down or up to any ‘reality’ except the reality of our drives (since thinking is only a relation between these drives)”[64], then it stands that there is no other reality deeper than that of our affective reality. Thus, the soul must be something about the body, in this case a plurality of drives, and their relation. It must be something *natural*, meaning with no transcendent component: it is a nature that has been un-deified. This is made clear in one of the most important parts of *Thus Spoke Zarathustra*, “On the Despisers of the Body”, when Nietzsche writes that:

[63] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 20.
[64] Ibid.

> "'Body am I, and soul'-thus speaks the child. And why should one not speak like children? But the awakened and knowing say: body am I entirely, and nothing else; and soul is only a word for something about the body."[65] (TSZ I, 4 "On the Despisers of the Body")

Not only does the soul belong to the body (and hence he breaks with the age-old prejudice that the soul is other-worldly, made of a completely different substance which simply occupies the body as a guest occupies a hotel room), but it is naive to think of the soul in any other way. If the soul is of the body, then one can look to aphorism 12 of *Beyond Good and Evil* for an idea of what it is:

> "the path lies open for new versions and sophistications of the soul hypothesis – and concepts like the "mortal soul" and the "soul as subject-multiplicity" and the "soul as a society constructed out of drives and affects" want henceforth to have civil rights in the realm of science." (BGE 12)[66]

For Nietzsche, then, a re-translation of the soul back to the body and nature is akin to redefining it as the "total economy" (BGE20) of all our "drives and affects", and since "we cannot get down or up to any 'reality' except the reality of our drives" (BGE 36), then a real study of what we are as a species has to begin with a study from the body, and not merely from consciousness. Nietzsche also foresees objections to this idea of the soul, for drives imply a plurality, while the soul has been considered, at least throughout modern philosophy, to be atomistic, which Nietzsche denies when he says that "our body is, after

[65] Nietzsche, Friedrich. "Thus Spoke Zarathustra." *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1982, pp. 146.
[66] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 14.

all, only a society constructed out of many souls" (out of a plurality), and defines atomism of the soul as "something indestructible, eternal, indivisible, that it is a monad, an *atomon*" and that "*this* belief must be thrown out of science!." I think it is of utmost important to recognize that Nietzsche wrote *"this"* in italics because he does not want to get rid of the soul as a concept, but rather, as said above, redefine it instead (See BGE 12).

The problem Nietzsche sees with natural scientists is that they, in lieu of redefining the concept of the soul, wish to eliminate it all together, something that for Nietzsche drives science further into nihilism, for it is the soul that concedes value to the world. In BGE 19 he tells us that our bodies are a "society constructed out of many 'souls'", souls being the Nietzschean equivalent to drives. The prioritization of these drives sets the framework for morality, which are the highest values that a culture considers best for life. If morality is "the power relations under which the phenomenon of 'life' arises", then we should not, in fact, cannot, completely remove it from our conceptual vocabulary. Furthermore, if "thinking is only a relation between these drives" (BGE 36). Neurobiologist Antonio Damasio emphasizes this idea that "thinking is only a relation between drives", that there is no such thing as an unaffective thought in his book *The Strange Order of Things*:

> "it is not possible to talk about thinking, intelligence, and creativity in any meaningful way without factoring in feelings. Feelings play a role in our decisions and permeate our existence."[67]

[67] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 146.

This means all reasoning, of every kind, has its origin not in a consciousness that is free from bodily drives, but from the continued relation between these drives themselves, that happen in the theater of the body:

> "The body is a great reason, a plurality with one sense, a war and a peace, a herd and a shepherd. An instrument of your body is also your little reason, my brother, which you call 'spirit'-a little instrument and toy of your great reason." (TSZ I, 4 "On the Despisers of the Body")[68]

It is of no surprise that Nietzsche would see Roux's paper as a scientific counterpart to his ideas, for Roux also sees the body as "a war and a peace" (a struggle which manifests commanders and obeyers). He heavily informed Nietzsche's notion of a body that has unity only in word (to paraphrase him), but not in reality. Günter Abel, in his article "Consciousness, Language, and Nature: Nietzsche's Philosophy of Mind and Nature"[69], explains that Nietzsche denies a thing-based model of reality, as would be "the body" unified in language, to a process-based model of reality, which would be what Nietzsche is trying to establish as the new methodological paradigm. This is apparent for example when Nietzsche is deconstructing Descartes' "I" and says "there is already too much packed into the 'it thinks': even the 'it' contains an *interpretation* of the process, and does not belong to the process itself." (BGE 17)[70] Part of Nietzsche's philosophy of language, as we

[68] Nietzsche, Friedrich. "Thus Spoke Zarathustra" *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1982, pp. 146.
[69] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 42-45.
[70] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf Peter Horstmann and Judith Norman. Translated by Judith Norman, Cambridge University Press, 2002. Print, pp. 17.

have seen, is to claim that language, although necessary for our existence, does nothing but falsify and simplify complex processes, and tries to frame them within a fixed thing-model of reality; the body is not free from this human anxiety to accommodate reality to our logic to try and make sense of it.

With all this said, it is important to understand that Nietzsche shouldn't be considered a mere biologist or reductionist. Günter Abel explains this succinctly:

> "Nietzsche's philosophy of the body or of bodily existence must not, however, be mistaken for a form of naturalism, biologism, or a body/organism ontology. First of all, the avenue to the body problematic does not lead through a single discipline, for instance biology or neurophysiology, but rather unfolds in the course of reflection upon consciousness. There, bodily existence is conceived as a pre-cognitive dimension of the possibility of knowledge, as well as of biology or neurophysiology."[71]

As Nietzsche says in *The Gay Science* 112, "Cause and effect: such a duality probably never exists; in truth we are confronted by a continuum out of which we isolate a couple of pieces" (GS 112)[72]. Part of this continuum is that of the interoceptive to the exteroceptive and vice versa: the "inside world" working as the pre-cognitive framework for the possibility of knowledge from the outside world, and the experiences had as embodied and embedded organisms returned to the inside world in the way of exteroceptive stimuli, of which we are only conscious of a small part; of those "isolated pieces" (based on our need to atomize reality).

[71] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 50.
[72] Ibid. pp. 173.

1.4 The Self: A Redefinition of An Age-Old Concept

Nietzsche made an important re-definition of the concept of the Self, and it is one of the most unique (re)interpretations in all of philosophy. To understand this, it is necessary to recount the history of the Self in philosophy, which would be a gargantuan task unto itself. So, briefly what can be said is that the Self has always been posited in a somewhat metaphysical sense, from Plato's tripartite soul, Socrates' "know thy self", Descartes' "I" in the cogito ergo sum, to Kant's transcendental apperception (the "I" that is concomitant with all experiences, and that precedes said experiences). This is just to name a few of the most prominent examples of its use and definition, and to underscore one glaring aspect about all of them: they all posit the Self from a non-bodily perspective. The Self is either a substance akin to a soul (and hence the "intelligent aspect" of one's constitutive elements) or psychological and grammatical in nature. Nietzsche recoils from this kind of metaphysical thinking. That is, he is against a transcendent Self that serves as an immutable and ever-present substrate to the becoming that is life and its experiences. Nietzsche reinterprets the Self by bringing it to the physical, and gives its prime definition in *Thus Spoke Zarathustra*:

> "Behind your thoughts and feelings, my brother, there stands a mighty ruler, an unknown sage-whose name is Self. In your body he dwells: he is your body." (TSZ I, 4 "On the Despisers of the Body") [73]

[73] Nietzsche, Friedrich. "Thus Spoke Zarathustra." *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1982, pp. 146.

Hence, the important notion of "the body as the guiding thread" is presented. No longer is the Self relegated to realms beyond the physical, but rather is embodied in each one of us. Language itself is subject to this Great Reason that is our Self, our body. In *Of Truth and Lie in an Extra-moral Sense*, Nietzsche writes that language is merely bodily stimuli put to sounds. As such, our sense of ego as Self is also a linguistic interpretation from an affect borne out of a plurality of stimuli that we have synthesized and unified under the grammatical "I". In other words, both Kant and Descartes (and the whole history of philosophy that adopted their use of it) were naive when they posited an "I" or an ego independent from the body and the language created by it. That is to say, Nietzsche wanted to make clear in *Zarathustra* that the Self, the body, is creative in nature, with language being its magnum opus, and with the grammatical "I" being one of the most important movements. In his late notebooks, he continued with this idea:

> "If I have anything of a unity within me, it certainly doesn't lie in the conscious 'I' and in feeling, willing, thinking, but somewhere else: in the sustaining, appropriating, expelling, watchful prudence of my whole organism, of which my conscious self is only a tool." (NL 1885, 34[46])[74]

From a Nietzschean point of view, Descartes and Kant fell into the trap of the "seduction of grammar" and mistook language for objective reality, with their definition of the Self being intrinsically tied into the grammatical "I". Socrates made a grave mistake in believing that knowledge can go so deep as to knowing "thy self" when the Self is hidden

[74] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 2.

behind multiple bodily processes which neither language nor consciousness will ever be able to access (and since knowledge is dependent on language, full knowledge of "thy self" will forever remain ineffable); Plato's soul is nothing but "something about the body." This is not to say that because language falsely unifies and simplifies that which is plural and complex, we must do away with it. In BGE 4 it is clear that:

> "We do not consider the falsity of a judgment as itself an objection to a judgment; this is perhaps where our new language will sound most foreign. The question is how far the judgment promotes and preserves life, how well it preserves, and perhaps even cultivates, the type." (BGE 4)[75]

What this means is that we need to be conscious of our anthropomorphically centered view when using language as if it refers to reality-in-its-self (for language will never be able to touch upon it). Nietzsche's Self is revolutionary in the history of philosophy because he decouples it from its traditionally transcendental and metaphysical conceptions, independent of all historical contexts and atemporal. He ties it directly to the body, embedded within a culture and dependent on the temporal.

Neuroscience has taken many of the ideas Nietzsche had of this pre-cognitive dimension of the possibility of knowledge through his idea of the intelligent body, while taking Abel's warning of the non-reductionist avenue of Nietzsche's body with seriousness. This is one of the reasons David Eagleman was chosen as one of the main defenders of this thesis central question: Eagleman does not believe that everything

[75] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf Peter Horstmann and Judith Norman. Translated by Judith Norman, Cambridge University Press, 2002. Print, pp. 7.

psycho-physiological can be explained by merely reducing all human experience to the action-potential of neurons and the release of chemicals, as if these things happen *ex nihilo,* while providing more than enough philosophical and scientific examples to satisfy the Abel problematic.

In summary, Nietzsche's studies in science were never meant to be taken as science for science's sake, or in a positivist sense. He had no interest in the "naive positivist's commitment to the ideal of a 'naked' or 'brute' fact"[76], but was interested in a different question: to what extent can *values* be extrapolated by the results *of* and the methods applied *to* the diverse scientific investigations of his time. For example, considering the perspective of the model of continuum, how do Roux's studies concerning organisms and the milieu of interoceptive and exteroceptive feedback/feedforward struggle loops influence how we see life? What perspectives are borne from it and how do we-apply *value* to these perspectives? This question of value permeates all his philosophy, because in the end, "'genuine' philosophy is concerned with the creation of values."[77] By positing the "body as the guiding thread", he founds these valuative extrapolations on the aspects of an organism's life that go beyond simple reflexive consciousness, and into areas consciousness cannot access. The "Self" is redefined based on this foundation. No longer is the Self just another word for consciousness, but rather something of the body, with consciousness relegated to the role of a "small tool"; a small aspect in the totality of the Self. The body is no longer viewed as a mindless automaton but rather as the quality of the

[76] Leiter, Brian. *Nietzsche on Morality*. New York, Routledge, 2015. pp. 14.
Though Leiter does admit that Nietzsche did go through this positivist phase early in his life, with the "culmination of *Human, All Too Human*" in 1878-1880 (various parts were added in those three years).
Ibid. pp. 17.
[77] Ibid. pp. 18.

Self which serves as a "Great Reason", which interprets the world and acts in its interests, not merely to survive but to increase its vital powers through a deeper connection with life. Words like the "soul" and "spiritualization" are kept, but redefined, with the soul being akin to drives, and the spiritualization of the body akin to the organizational and hierarchal dynamicity of such drives[78]. Hence his problem with the use of consciousness as the guiding thread when it comes to creating moral valuations: it leaves the much deeper and profound aspects of our organism unused. This idea of science as not merely cold, "objective" facts but as a possible foundation from which to extrapolate value judgments is also seen in the more philosophically inclined neuroscientists of today.

Stanford Professor of Plasticity and Neuroscientist David Eagleman is a prime example, as his critiques of consciousness and the grammatical "I" are similar to those of Nietzsche. His critique also places the extrapolation of values as a prime priority, for example, when dealing with how our current judiciary system seems to completely ignore the complexity of bodily actions in lieu of conscious transgressions (a fairly new field of study called Neurolaw, which follows the body as the guiding thread, and has been emerging in the last few years). It's one of the reasons the neurosciences are becoming an interesting philosophical battleground, and Nietzsche's philosophy can help add more depth to such discussions.

[78] See BGE 9, 12, and 213.

Chapter 2: Nietzsche, Neuroscience, and Embodiment

2.1 Why Neuroscience?

It might seem odd to couple Nietzsche with neuroscience in the same sentence. After all, the father of neuroscience himself (Ramon y Cajal) really had no striking or obvious influence in the realm of science until well after 1889, date when Nietzsche suffered from his mental crisis and never published anything ever again. So, while it certainly cannot be claimed that Nietzsche was a neuroscientist, he does seem to have some surprisingly deep insights as to how our brain and body work together (through interoceptive means, for example) to construct everything from our moral conceptions to consciousness. In *Daybreak* 119, he claims that "our moral judgments and evaluations[…] are only images and fantasies based on a physiological process unknown to us, a kind of acquired language for designating certain nervous stimuli", reducing morality to something that's "in the service of physiological functions."

Nietzsche being unaware of the neurobiological subdivision and specialization of physiology means that some conceptual clarification is required to bridge the gap in time. For some, the Mind and Body division has entered modern discourse as the Brain and Body division. This is something which Jaak Panksep's "The Philosophical Implications of Affective Neuroscience" tries to bridge. Panksep creates a rather new concept to try and remedy this which he calls MindBrain or BrainMind, and makes it clear that he "employ[s] the terms BrainMind and MindBrain interchangeably, depending on desired emphasis, capitalized and without a space to highlight the monistic view of the brain as a unified experience-generating organ with no Cartesian dualities that have traditionally hindered

scientific understanding."[79] The problem with this is that it insists on fixing a process into a concept by using language as a reifying tool. Nonetheless, when Nietzsche writes of the "mind" (with all its caveats) it is something akin to Panksep's MindBrain: This is in part what Günter Abel refers to in his "model of continuum" and why, as a refresher, he defines it as "a continuous spectrum of what exists or occurs, from the most extreme limit of the inorganic, through the organic, up to […]human action."[80] In other words, it is in a matter of degrees and not of absolutes that such a continuum of reality is built upon. It will be important to keep this in mind as the reader moves forward.

One of Nietzsche's claims is that there is always something that commands and something that obeys within every living organism (though he also extends it to the inorganic). He writes that "[a]long the guiding thread of the body…we learn that our life is possible through an interplay of many intelligences that are very unequal in value", and that go "through a constant, thousand-fold obeying and commanding" (NL 1885 37[4])[81]. He reformulates this in *Beyond Good and Evil* when he claims that "we are[…]both the one who commands and the one who obeys." (BGE 19)[82-] Neuroscience, especially the branch dealing with plasticity, has since agreed with this observation of something that commands and something that obeys and the "inner struggle" of all organic forces. To give

[79] Panksep, Jaak, et al. "A Synopsis of Affective Neuroscience – Naturalizing the Mammalian Brain" *Journal of Consciousness Studies, The Philosophical Implications of Affective Neuroscience* 19, No. 3–4, 2012, pp. 6-7.
[80] Dries, Manuel, and P. J. E. Kail. *Nietzsche On Mind and Nature*. Oxford: Oxford UP, 2015. Print.
[81] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 29.
[82] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 19. Anticipating the third chapter, Antonio Damasio writes in *The Strange order of Things* that "The principle is always the same: organisms give up something in exchange for something that other organisms can offer them; in the long run, this will make their lives more efficient and survival more likely." Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 62.

an example, the British Neuroscience Association's (BNA) *Science of the Brain* tells us that "neurons both cooperate and compete with each other in regulating the overall state of the neurons system, rather in the same way as individuals in a society cooperate and compete in decision-making processes." (BNA) For Nietzsche, this physiological study is the highway to understanding human psychology and is important when trying to understand how the concepts of embodiment and embeddedness are pivotal in trying to understand all human experience (our creation of signs, concepts, knowledge and so on). In other words, this idea of neurons cooperating and competing is reflected in the broader and more abstract application when "creating" societies and cultures. Hence, a continuum is formed: the objective world of neurons is reflected in the abstract conceptions of society and culture.

David Eagleman takes this idea of "competing neurons" and expands on it in his book *Livewired*, where in the end he tries to "distill the main features of livewiring into seven principles", to which principle number six is "Compete or die. Plasticity emerges from a struggle for survival of the parts of the system."[83] Eagleman writes that:

> "[a]lthough a traditional textbook drawing suggests that neurons in the brain are happily packed next to one another like jelly beans in a jar, don't let the cartoon fool you: neurons are locked in competition for survival […]. Through the lifetime of a brain, maps are redrawn in such a way that the experiences and goals of a person are always reflected in the brain's structure."[84]

[83] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. PantheonBooks, 2020, pp. 258
[84] Ibid. pp. 9-12.

Nietzsche's adherence to Roux's view of the inner struggle of the organism as an important piece of the puzzle in placing the body as the guiding thread to explaining the human experience, was correct. This idea inspired Nietzsche's own view of struggle and its importance in the development of a species:

> "The individual itself as a struggle between its parts (for food, space, etc.): its evolution dependent on some parts conquering, prevailing, and the others withering, 'becoming organs'." (NL 1886-1887, 7[25])[85]

Hence, struggle is important in the development of an organism: if something struggles, it is because it has met resistance. Overcoming the resistance means giving the organism new organizational patterns which increase that organism's vital powers. Neurons do this all the time. For example, Eagleman has an interesting theory (in the initial "hypothetical" sense) that this is where dreams reveal themselves:

> "We theorize that the circuitry behind visual dreams is not accidental. Instead, to prevent takeover, the visual system is forced to fight for its territory by generating bursts of activity when the planet rotates into darkness. In the face of constant competition for sensory real estate, an occipital self-defense evolved. After all, vision carries mission-critical information, but it is stolen away for half of our hours. Dreams, therefore, may be the strange love child of neural plasticity and the rotation of the planet."[86]

[85] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 134.
[86] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. Pantheon Books, 2020, pp. 47

In this context, it is important to interpret Nietzsche writing "individual" as another form of linguistic fiction, where instead what we find is a process of beings in a constant, ever-changing flux:

> "The concept of the 'individual' is false. In isolation, these beings do not exist: the centre of gravity is something changeable; the continual generation of cells, etc. , produces a continual change in the number of these beings. And mere addition is no use at all." (NL 1885, 34[123])[87]

David Eagleman echoes this when he writes, "[n]eural reconfiguration is an ongoing process that lasts through our lives: we form new ideas, accumulate fresh information, and remember people and events"[88], meaning that our identities are ever-changing from the moment we are born to the moment we die, and this is only possible in a world, as Nietzsche would say, of becoming, of processes, of multiplicities. But the question arises: Can there be something *like* an individual in the world? Perhaps not, but perhaps what *is* possible is something akin to it through the strengthening of each person's character by overcoming life's struggles, and the positive digestion of even its most tragic aspects. Perhaps through this process we become *who we are*.

This is one of the reasons Eagleman begins his book *Livewired* with an epigraph from Heidegger: "Every man is born as many men and dies as a single one."[89] The idea behind the quote is to establish a simple fact; that our (human) brain does not come into the world fully developed and ready to go, something we do find in other animals (e.g. a

[87] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 8.
[88] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. Pantheon Books, 2020, pp. 218.
[89] Ibid. pp. 2.

tiger that comes out of its mother's womb ready to hunt and predetermined to a set of behaviors for the rest of its life) but rather our incompleteness is key to our survival and adaptability, as the brain reorganizes itself constantly to meet the demands imposed upon it by the outside world. It is late in the life of a human being that one starts becoming a unity (borne out of an initial community of drives -or "soul economy"[90] (BGE 20), as Nietzsche would call it). This principle of reorganization was an insight Nietzsche shrewdly had. In his chapter "Becoming Reasonable Bodies: Nietzsche and Paul Churchland's Philosophy of Mind", Helmut Heit writes (quoting Abel) that "Nietzsche replaces the traditional world of atoms and laws by a dynamic world of processes and power-constellations, of events and fluctuant organizations (Abel 1984)."[91] Nietzsche (early on) used the term "plastic force" to refer to this concept as that "force of growing in a different way out of oneself, of reshaping and incorporating the past and the foreign, of healing wounds, compensating for what has been lost, rebuilding shattered forms out of one's self."[92] Reformulated today, David Eagleman says this is one of Mother Nature's greatest "tricks":

> "Our species has successfully taken over every corner of the globe because we represent the highest expression of a trick that Mother Nature discovered: don't entirely pre-script the brain; instead, just set it up with the basic building blocks and get it into the world."[93]

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[90] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 14.
[91] Heit, Helmut. "Becoming Reasonable Bodies: Nietzsche and Paul Churchman's Philosophy of Mind". *Nietzsche on Consciousness and the Embodied Mind*, edited by Manuel Dries. Berlin, De Gruyter, 2018. Pp. 88.
[92] Nietzsche, Friedrich Wilhelm. *On the Use and Abuse of History for Life*. Translated by Ian Johnston, Richer Resources Publications, 2010, pp. 3.
[93] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. Pantheon Books, 2020, pp. 2.

The brain, then, "isn't fully preprogrammed, but instead shapes itself by interacting with the world."[94] It is because of this trick that we find humans in every climate throughout the world, while some species can only thrive in predetermined ones. It's also why we are able to mold our surroundings to suit our needs, like killing animals for their fur in cold weather, using their leather as clothing and to roof our tents on rainy days and nights, cutting down trees and making houses out of them, making weapons from stones, and everything that sprang from these basic and rudimentary engineering skills. But it also meant that we, as a species, depended on one another, this is because we don't have sharp claws or exoskeletons to protect us against the violence of nature's other predators, we are vulnerable without our community. When we study history, anthropology, or when we simply look out into the world, it seems that this is as true at the dawn of our species' existence as it is now, and so we see it as a spectator would, peering out into the world. But unbeknownst to many (before and now) is that this same process of communities of organisms fighting for survival and for real-estate on which to expand their network of influence is also happening in our brains. And it is a never-ending war. But it is precisely this fight for survival also what allows our brains to be as plastic as it is, and hence to adapt to its environment as adeptly as we can. The inside and outside world forever stuck in a feedback/feedforward loop.

If one heeds Günter Abel's warning that the study of Nietzsche's "body problematic" cannot be reduced to a single discipline (as we saw in the first chapter), then one is validly cautious when it comes to reading a section that deals exclusively with neuroscience. But I would argue that David Eagleman satisfies Abel's avenue problematic.

[94] Ibid.

He is very clear that "[a] meaningful theory of human biology cannot be reduced to chemistry and physics, but instead must be understood in its own vocabulary of evolution, competition, reward, desire, reputation, avarice, friendship, trust, hunger, and so on"[95]. Eagleman is aware that there is both a scientific and anthropological (historical) requirement to fully understand what the human experience is, interweaving the historical with its effects on the biological and vice versa. This view is shared by many in the neuroscience community, like Lisa Feldman Barrett, who writes, "[y]our brain […] developed inside a body, nestled among other human brains in bodies, who balanced your body budget and expanded your affective niche through actions and words."[96]

Eagleman's "Human biology" statement can be interpreted as the whole of the human experience, from the interoceptive non-conscious processes to the small amount that reaches conscious mental translations of them, to exteroceptive stimuli that give rise to such interoceptive states and influence our bodies-and-brains configurations to properly adapt to the outside stimuli. And vice versa: the interoceptive world influencing the exteroceptive to best fit the needs of our "human biology" (for example through the environmental manipulation of constructing houses and skyscrapers to give us shelter, genetically manipulating food for better distribution, etc.). In this infinite loop, the body is at the center of it all: "The brain is a dynamic system, constantly altering its own circuitry to match the demands of the environment and the capabilities of the body."

As discussed, many ideas studied today in neuroscience echo many insights Nietzsche had before the birth of the discipline; ideas which I think can benefit from a

[95] Eagleman, David. *Incognito, The Secret Lives of the Brain*. Pantheon Books, 2020, pp. 229.
[96] Barrett, Lisa Feldman. *How Emotions Are Made: The Secret Life of the Brain*. Mariner Books, 2018, pp. 300.

Nietzschean perspective. The idea of identity being in flux and physiologically dependent is one that both Nietzsche and Eagleman share, and which is important when speaking of such a human defining concept as the Self.

2.2 No Self Before the Body

Nietzsche's conception of the Self is seen not in terms of pure consciousness, but in terms of the body and its hidden processes, and how they define who we are by both the impact of and how we react to the culture we are embedded in, the world at large, and how we assimilate the multitude of human experiences. Thus, a simple physicalist reduction is not viable when attempting to explain the whole of human experiences. As such, neuroscientists must consider the internal to external feedback and feedforward loops as important factors to what goes on in both conscious and non-conscious processes. In other words, they must take into consideration our embodied and embedded nature to properly assess the varying experiences that are concomitant with human existence; one that starts not from the study of consciousness but the body. From said feedback/feedforward loops a lot of philosophical implications can be extrapolated, such as the problem of guilt, both morally and legally.

It is also in this feedforward and feedback loop that we "become who we are" through the possible overcoming of the most arduous and difficult of human experiences. And these overcomings aren't simply symbolic, but rather represent themselves in our physiology. David Eagleman writes:

> "One can gather a tremendous amount of data from a body, because a body is shaped by its experiences. As we've seen, a much more specific shaping takes place in the brain. At some point we might perhaps be able to read the rough details of someone's life—what he did and what was important to him—from the exact molding of his neural resources."[97]

Both David Eagleman and Nietzsche share the view of the Self having its foundation in the body. When writing about patients with what is known as "asomatognosia, which translates to 'not knowing one's body'", Eagleman explains that "damage to the right parietal lobe of the brain (say by a stroke or tumor) means a person is no longer able to control a limb" which leads to the brain no longer controlling it, and hence "the limb falls from the brotherhood of the Self."[98] The body and the Self are intrinsically linked.

Following this thread, Eagleman writes that "the organism builds a model of its body's interaction with the world" which then nurtures a "feedback loop between the internal and external worlds" and that when we "put social actions into the world, we assess the feedback and adjust."[99] The reason the brain has to *build* an interpretive model of the world is because that's the brain's main goal: "In the darkness of the skull, your brain is striving to build an internal model of the outside world."[100] As he also writes, "your three pounds of brain tissue are not directly hearing or seeing any of the world around you. Instead, your brain is locked in a crypt of silence."[101] If one needs more proof that our body should be the methodological beginning to any investigation regarding human existence and experience, then one can think of the fact that the brain wholly relies on the

[97] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. Pantheon Books, 2020, pp. 257
[98] Ibid. 142
[99] Ibid. 130
[100] Ibid 178
[101] Ibid. 55

interpretation of external stimuli -through the body- that arrives in the form of electrochemical signals sent by our peripheral devices (eyes, ears, etc.) to create its own reality. The brain does not see the world around us but rather creates a picture as accurate as it can through processes of interpretations in order to navigate and survive it.

Hence, our conscious images and language rely on this fundamental bodily fact to emerge. It serves as their condition of possibility. On the other side of this coin, the stimuli themselves aren't neutral. If they were, we would constantly give the same interpretations to similar experiences of the world. Different stimuli have different strengths, and the strongest one will place their interpretation of the world as the reigning view for the brain. In Nietzsche's vocabulary, the strongest drive wields the conquering interpretive force. The concept of the Self as an "I" which "does" an action is built upon the fundamental aspects of an embodied and embedded existence which precedes any sense of conscious self, and that informs and guides the way that the conscious self comes about in the first place.

This is why, for Nietzsche, perspectivism plays such an important role in knowledge and our construction of reality:

> "There is only a perspectival seeing, only a perspectival 'knowing'; the more affects we are able to put into words about a thing, the more eyes, various eyes we are able to use for the same thing, the more complete will be our 'concept' of the thing, our 'objectivity'." (GM III, 12)[102]

[102] Nietzsche, Friedrich. *On the Genealogy of Morality and Other Writings*. Edited by Keith Ansell-Parson. Translated by Carol Diethe. Cambridge University Press, 2006, pp. 87

Eagleman's conception of vision compliments this notion:

> "you have to experience purple to know what purple is. No amount of academic description will ever allow a color-blind person to understand purpleness. Similarly, make an attempt to explain vision to a friend born blind: you can try all you'd like, and your blind friend might even pretend to understand what you're talking about. But in the end it's a fruitless attempt. *To understand vision requires experiencing vision.*"[103]

In both Eagleman's and Nietzsche's case, understanding the body is not like understanding linguistic concepts. It requires an embodied and embedded experience emerging from the feedback loop of external stimuli creating internal patterns upon patterns of *complex* processes that are hidden behind multiple *unconscious* processes, and thus remains ineffable. The ineffability of such experiences means that it is a "text" that requires being "felt", instead.

Understanding this means to understand that the Self moves alongside life experiences which are in constant flux, meaning that thinking (and one's construction of the Self) will always rely on the shifting experiences that inform perception. This means that the Self is not an immutable and unchanging substance but is rather something always in flux. Thus, there is no reality or normality that is consciously prescribed and prepackaged through which we are mere passive travelers. Take for example the concept

[103] Eagleman, David. *Livewired: The Inside Story of the Ever-Changing Brain*. Pantheon Books, 2020, pp. 109

and illusion of “motion aftereffect”, which was “the first recorded visual illusion” and was “noted by the ever-observant Aristotle.”[104] “Eagleman explains:

> “…stare at a waterfall. After keeping your eyes locked on it for a bit, look over to the rocks to the side of the waterfall. The rocks appear to move upward. Why does it happen? The activity of particular neurons in your visual cortex represents downward motion, and the activity of other neurons represents upward motion. They’re always locked in battle. Most of the time, the competition is evenly pitched, and they evenly inhibit each other. As a result, the world appears to be moving neither up nor down […] Your system is exposed to continuous downward motion and, after a while, comes to assume this is the new normal.”[105]

In other words, normality itself is guided by perception, with perception itself being “a way to actively explore the environment, matching a particular action to a specific change in what returns to the brain.”[106] , as opposed to a passive perception. As this example shows, in a nonconscious manner the way you perceive the world shifts as the environment and your internal processes begin to sync, or unsync. This has a wealth of consequences not only for that particular sense modality, but also for our right and wrong categories. If we perceive that the "right" movement has always been upward, downward motions would be considered abnormal, or the "wrong" way of perceiving "reality." The Self, then, starts with the body and its interactive feedback/feed forward loops with its embodied and embedded context. Whatever "your system is exposed to" becomes " the new normal"[107], and hence your sense of Self (the conscious “I”) shifts along with it. This is why Eagleman considers

[104] Ibid. 169
[105] Ibid.
[106] Ibid. 66
[107] Ibid. 170

that "everything is in flux: bodies, food sources, and the mapping between inputs, capabilities, and outputs."

The problem both Eagleman and Nietzsche see in our conceptions of "rights" and "wrongs" is that they seem to completely ignore this physiological reality. They are the result of unconscious and non-coconscious bodily processes, that enter society as an act of conscious moral judgment, and as a result consciousness reigns queen as the highest form of explanation: "He should have known it was wrong." It is also the case that both agree that consciousness is nothing but a "small tool" of the body (and brain) and is not the whole of the "Self."

2.3 Nietzsche, Neuroscience, and the Problem of Consciousness

Nietzsche has been clear in that he believes "[c]onsciousness is the last and latest development of the organic and hence also what is most unfinished and unstrong"[108] in all organisms endowed with some sense of it, and only did so by being built on top of a Self which roots are physiological, and far older. He dedicates a whole section to this view of consciousness as an epiphenomenon in his *The Gay Science*, where he writes:

> "The problem of consciousness (more precisely of becoming conscious of some thing) confronts us only when we begin to comprehend how we could dispense with it; and now physiology and the history of animals place us at the beginning of such comprehension."[109]

[108] Nietzsche, Friedrich. *The Gay Science: With a Prelude in Rhymes and an Appendix of Songs*: Translated, with Commentary by Walter Kaufmann. Random, 1974, pp. 84
[109] Ibid. pp. 314.

To believe that consciousness is the guiding factor in this human experience is a mistake neuroscience is aiming to correct (or elucidate), as well as the history of biological behaviorism in animals, which has shown us that they do, in fact, form cultures and hierarchies, all without the need of consciousness. All that is needed is the guidance of body stimuli and the feedback loop with the external world not just to exist, but to expand their influence as well.

It's no wonder then that Nietzsche tirades against consciousness and the illusory concept of cause and effect. Because of our "faith" in the grammatical "I", we take cause and effect to mean a "doer" behind an action. In his Late notebooks, he writes that "Cause and effect" is "a dangerous concept if one conceives of a something that causes and a something upon which there is an effect" (NL 1887, 9[91])[110]. In other words, we take our action to first exist on the conscious plane (the conscious self working through the grammatical "I"), and once we have "decided" to do something, then we do it, when in fact, most of the time, it is the reverse that is true: our body first reacts to outside stimuli and only after does it reach consciousness. This way of thinking about reactive processes in a grammatical way (i.e.: "I" decided to react in a certain way, and then I did) is in question today. David Eagleman provides an example of how the reverse is probably true:

> "Consciousness is the smallest player in the operations of the brain. Our brains run mostly on autopilot, and the conscious mind has little access to the giant and mysterious factory that runs below it. You see evidence of this when your foot gets halfway to the brake before you consciously realize that a red Toyota is backing out of a driveway on the road ahead of you. You see it when you notice your name

[110] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 154.

> spoken in a conversation across the room that you thought you weren't listening to, when you find someone attractive without knowing why, or when your nervous system gives you a "hunch" about which choice you should make."[111]

Behaviorally, we act as if there is an " I" as the doer of an action, the cause to an effect. But there's no being behind the doing. There is only action, and only afterwards does consciousness take credit for supposedly having done the action. David Eagleman elaborates this point even further:

> "You gleefully say, "I just thought of something!", when in fact your brain performed an enormous amount of work before your moment of genius struck. When an idea is served up from behind the scenes, your neural circuitry has been working on it for hours or days or years, consolidating information and trying out new combinations. But you take credit without further wonderment at the vast, hidden machinery behind the scenes."[112]

This is reminiscent to something Nietzsche has *Zarathustra* say:

> "I," you say, and are proud of the word. But greater is that in which you do not wish to have faith-your body and its great reason: that does not say "I," but does "I." (TSZ I, 4 "On the Despisers of the Body") [113]

In both cases, consciousness appears as an epiphenomenon, and we only believe it to precede all action because of our belief in an "I" (a subject) that must exist before an action takes place. Both Nietzsche and Eagleman see the problem of the reign of consciousness

[111] Eagleman, David. *Incognito, The Secret Lives of the Brain*. Pantheon Books, 2020, pp. 265.
[112] Ibid. pp. 12.
[113] Nietzsche, Friedrich. "Thus Spoke Zarathustra: A Book for All and None" *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1982, pp. 146.

and the "I" as a much bigger problem when zoomed out to the scale of culture. For example, in Eagleman's case, how our legal system is setup is not by using the body as the guiding thread, but consciousness:

> "Because we did not choose the factors that affected the formation and structure of our brain, the concepts of free will and personal responsibility begin to sprout with question marks[…]. Is it justifiable to say that the patients with frontotemporal dementia or Parkinson's should be *punished* for their bad behavior? [...]. When modern brain science is laid out clearly, it is difficult to justify how our legal system can continue to function without it."[114]

From Nietzsche's angle, the same problem is viewed from the perspective of morality. For example, he links the unknowability of the true motivations of our actions, the reign of consciousness and the grammatical "I" to what Eagleman called the "machinery behind the scenes" in a very striking passage of *The Gay Science*:

> "That our opinions about "good" and "noble" and "great" can never be proved true by our actions because every action is unknowable; that our opinions, valuations, and tables of what is good certainly belong among the most powerful levers in the involved mechanism of our actions, but that in any particular case the law of their mechanism is indemonstrable." (GS 335) [115]

Every action is "unknowable" in that their true "motivations" lie hidden behind the blackbox which our conscious mind can never access. Consciousness is, indeed, "the smallest player in the operations of the brain", and when cultures elevate it as the greatest

[114] Eagleman, David. *Incognito, The Secret Lives of the Brain* . PantheonBooks, 2020, pp. 169.
[115] Nietzsche, Friedrich. *The Gay Science: With a Prelude in Rhymes and an Appendix of Songs*: Translated, with Commentary by Walter Kaufmann. Random, 1974, pp. 265.

tool for the highest degrees of analysis, they are, once again, scribbling and drawing over that "eternal basic text of *homo natura*" (BGE 230).[116]

Further elaborating the epiphenomenal character of consciousness, David Eagleman writes that: "The conscious mind is not at the center of the action in the brain; instead, it is far out on a distant edge, hearing but whispers of the activity."[117] In other words, consciousness as an epiphenomenon implies that it is not foundational, and that the mind does not spring from consciousness, but rather consciousness is a part of what the mind is, conditioned by bodily embeddedness. The implication of this is something that Nietzsche had already seen: that we could survive as a species without consciousness ever having emerged from our brains. Of course, this not to downplay the usefulness of consciousness, for both Eagleman and Nietzsche admit it is important for the successful propagation of the species as we now exist, but that given its absence, our bodies would be able to take care of themselves just fine. Nietzsche when he writes that "we could think, feel, will, and remember, and we could also 'act' in every sense of that word, and yet none of all this would have to "enter our consciousness' (as one says metaphorically)."[118] The last phrase of this quote – "as one says metaphorically"- is important to further understand Nietzsche's philosophy of language as having its roots in the physiological. When speaking of the thing-in-itself as an example:

> "The 'thing in itself' (for that is what pure truth, without consequences, would be) is quite incomprehensible to the creators of language and not at all worth aiming

[116] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 14.123
[117] Eagleman, David. *Incognito, The Secret Lives of the Brain* . PantheonBooks, 2020, pp. 15.
[118] Nietzsche, Friedrich. *The Gay Science: With a Prelude in Rhymes and an Appendix of Songs*: Translated, with Commentary by Walter Kaufmann. Random, 1974, pp. 297.

> for. One designates only the relations of things to man, and to express them one calls on the boldest metaphors. A nerve stimulus, first transposed into an image - first metaphor. The image, in turn, imitated by a sound-second metaphor…"[119]

Linguistic metaphor is always language created to express things that relate directly to human experience and to our biology, our organismic composition. There is no way to reach the "thing-in-itself" because there is no way of ridding ourselves from what we are as a species and our evolution, nor how we relate to our environment through our specific anatomical composition. Language does not precede "nerve stimulus", but is instead bound to it, the nerve stimulus serving as its condition of possibility, hence having its genesis in the nonconscious part of our "selves". But what goes on beneath the hood of the nerve stimulus (which is metaphorical, as once again, it only exists as a unity because we have falsified a complex process into a "concept", into a word) is unknown to us, and will remain so. Nietzsche believes that concepts (an expression of linguistic metaphors) also stem from this line of thought. He writes:

> "Let us now think in particular of how concepts are formed: every word immediately becomes a concept precisely because it is not intended to serve as a reminder of the unique, entirely individualised primal experience to which it owes its existence, but because it has to fit at one and the same time countless more or less similar cases which, strictly speaking, are never equal or, in other words, are always unequal. Every concept comes into being through the equation of non-equal things. As certainly as no leaf is ever completely identical to another, so certainly the concept of leaf is formed by arbitrarily shelving these individual differences or forgetting the distinguishing features."[120]

[119] Friedrich Wilhelm Nietzsche, et al. "On Truth and Lie in an Extra-Moral Sense (1873)". *Writings from the Early Notebooks*. Cambridge, UK; New York, Cambridge University Press, 2009. pp. 256.
[120] Ibid. 256-257.

"Concept-building" itself is dependent on multiple complex physiological processes that remain unknown to us, and hence when we create a concept, we are simply creating a word-metaphor for the simplified and falsified version that enters our consciousness. Günter Abel explains it best:

> "Thinking is an event that takes place in signs, more precisely in linguistic signs. We can, as Nietzsche puts it, 'think only in linguistic form' and we 'cease thinking when we tend not to do it within linguistic constraints' (NL 1886–7, KGW VIII.1, 5[22]). With this, Nietzsche propounds the dependence of conscious thinking on the grammatical functions of language."[121]

Consciousness (reflexive consciousness especially) is, like word-creation, also metaphorical since it is dependent on linguistic signs as its condition of possibility.

If consciousness and language are metaphorical, then introspection as a form of knowing one*self* is called into question, which is another point of contention against consciousness that both Nietzsche and Eagleman share. The use of introspection in order to "know thy self" arrives at its limits very fast. Eagleman writes that "to know oneself may require a change of definition of "to know." "Knowing yourself now requires the understanding that the conscious you occupies only a small room in the mansion of the brain, and that it has little control over the reality constructed for you."[122] By the same token, Nietzsche writes that:

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[121] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 47.

[122] Eagleman, David. *Incognito, The Secret Lives of the Brain* . Pantheon Books, 2020, pp. 210.

> "We remain strange to ourselves out of necessity, we do not understand ourselves, we must confusedly mistake who we are, the motto 'everyone is furthest from himself' applies to us for ever, – we are not" 'knowers' when it comes to ourselves . . ." (GM 1)[123].

In other words, like Eagleman, Nietzsche denied that we can have direct knowledge of ourselves by introspection or any other means which requires language, since language itself cannot breach the barriers of the non-conscious processes that make up our existence. Nor would we want to, as both Nietzsche and Eagleman recognize.

If our body and its affects are "the form or translation of life with which the individual has or can have a certain kind of direct experience"[124] of its vital existence, then any study of the human experience would need to start there: in the world of emotions and feelings. In order to do so, one would need to focus on a study that connects humans and the cultures we create to the rest of nature. The evolution of other species also required the body as the guiding thread to establish a connection of how the affects and the body have guided nature into more complex forms of existence, from the inorganic to minded creatures like us, and which places us as part of that continuum. In other words, we are not isolated, special creatures, but rather a consequence of this evolution. Such analysis is needed if we wish to support the task of retranslating man back into nature.

This retranslation will lead towards a deeper understanding of humanity's most creative artistic creation: Culture. This is because cultures are bodies that have arranged their "tables of what is good" in a hierarchically determined manner guided by the affects

[123] Nietzsche, Friedrich. *On the Genealogy of Morality and Other Writings*. Edited by Keith Ansell-Parson. Translated by Carol Diethe. Cambridge University Press, 2006, pp. 3.
[124]Sánchez Meca, Diego. *Nietzsche: La Experiencia dionisíaca Del Mundo*. Tecnos, 2009, pp. 121 (My translation).

and the signs they produce. To follow philosopher Carlos Rojas' words, "the body is an emitter of signs: signs of our affects."[125] The tracing of these affective signs back to nature is what shall be discussed next

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[125] Rojas Osorio, Carlos. *Filosofía Y Psicología: De Platón al Presente*. Medellín Editorial Universidad De Antioqiua Julio Del, 2018. 101

Chapter 3: The Felt Text of Culture

3.1 Nietzsche and Damasio

It is imperative to learn much more about the intelligent body and the usefulness of affects in not only monitoring and guiding our individual selves, the cultures they are embedded in, and the feedback/feedforward loop they embody, but also how they create a continuum with the rest of nature. In other words, the body as the guiding thread is not limited to humans and our bodies and brains. It is found everywhere in nature. To accomplish this task, neurobiologist Antonio Damasio and his recent theory on homeostasis, feelings, emotions, and their ties to cultures, is of utmost importance. David Eagleman recognizes the importance of Damasio's ideas as well:

> "This led Damasio to propose that the feelings produced by physical states of the body come to guide behavior and decision making. Body states become linked to outcomes of events in the world. When something bad happens, the brain leverages the entire body (heart rate, contraction of the gut, weakness of the muscles, and so on) to register that feeling, and that feeling becomes associated with the event. When the event is next pondered, the brain essentially runs a simulation, reliving the physical feelings of the event. Those feelings then serve to navigate, or at least bias, subsequent decision making. If the feelings from a given event are bad, they dissuade the action; if they are good, they encourage it."[126]

Damasio expands on these thoughts in his book *The Strange Order of Things*, which serves our end of establishing deeper roots into the idea of a life that can only be directly experienced through bodies and affects, that are both embodied and embedded. The sense of what goes on inside of us as described by Damasio, our sense of agency, and how the

[126] Eagleman, David. *Incognito, The Secret Lives of the Brain*. Pantheon Books, 2020, pp. 79.

body self-regulates resonates greatly with the "task" that Nietzsche is hoping to achieve, which bears repeating:

> "To translate humanity back into nature; to gain control of the many vain and fanciful interpretations and incidental meanings that have been scribbled and drawn over that eternal basic text of *homo natura* so far; to make sure that, from now on, the human being will stand before the human being, just as he already stands before the *rest* of nature today, hardened by the discipline of science…" (BGE 230)[127]

For the purpose of this thesis, Damasio in this case provides the "hardened discipline of science." This is because Nietzsche's task is continued by Damasio:

> "Connecting cultures to feeling and homeostasis strengthens their links to nature and deepens the humanization of the cultural process. Feelings and creative cultural minds were assembled by a long process in which genetic selection guided by homeostasis played a prominent role. Connecting cultures to feelings, homeostasis, and genetics counters the growing detachment of cultural ideas, practices, and objects from the process of life."[128]

Damasio, like David Eagleman, understands that a full picture of the human experience does not travel through a single discipline:

> "I am not reducing cultural phenomena to their biological roots or attempting to have science explain all aspects of the cultural process. The sciences alone cannot illuminate the entirety of human experience without the light that comes from the arts and humanities."[129]

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[127] Nietzsche, Friedrich. *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Edited by Rolf-Peter Horstmann and Judith Norman. Translated by Judith Norman. Cambridge University Press, 2002, pp. 123.
[128] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 14.
[129] Ibid.

The historical and linguistic "sense" (perspective), and the Nietzschean connection of cultures as defined through the bodies that compose it, form a continuum between what is considered natural and culture. Like Nietzsche, Damasio also sees this continuum as imperative *for* the creation of culture. When giving the etymology of the word *culture,* he tells us that:

> "We can thank Cicero and ancient Rome for the word 'culture' applied to the universe of ideas. Cicero used the term to describe the cultivation of the soul—*cultura animi*—and he must have been thinking of the tilling of the land and its result, the perfecting and improvement of plant growth. *What applied to the land might as well apply to the mind.*"[130]

If we take "soul" to be, as Nietzsche would say in his *Zarathustra*, "something about the body", and that culture comes from the bodies where these souls reside, then we can think of culture as that which strives to perfect and improve the growth of all the bodies that compose it. The word *Züchtung* in German is evidence of this connection by meaning both "growth" and "culture". Whether this cultivation is successful or not is to be analyzed like a doctor would analyze a patient: he would look for symptoms and cures for whatever illnesses he finds. Hence the intricate intertwining of bodies and cultures.

Also like in the case of Nietzsche, here it is proposed that Damasio's analysis of cultures and bodies and the minds involved in creating the former and emerging from the latter is never seen from a dichotomic view of a reduction of one discipline or another. Nor is it reducible to one specific set of theories versus another. It instead allows for the interweaving of various models of thought, in Damasio's case with homeostatic processes

[130] Ibid. pp. 20 (my emphasis)

leading the way. The processes and the feelings that derive from homeostatic differentiation as the creators of culture -a study, borne from the perspective of *Wissenschaft*- is akin to when Nietzsche speaks of our body as the "felt text"[131] through which we most directly experience life. Vital experiences act on this felt text (through intero/exteroceptive stimuli) and turns it into a kind of commentary of the organization of bodily drives that prioritize - "spiritualize"[132]- one drive over another, creating differentiations not only through phenotypical variations (anatomical compositions or "types"), but also in the kinds of valuations they will create -valuations generated by a Great Reason that is the body and its interpretive methods. As Nietzsche writes in note 1[20], "The same text allows of countless interpretations: there is no 'correct' interpretations" (NL 1885-1886, 1[20])[133], and this is because "one and the same stimulus can be interpreted as pleasure or displeasure."[134] In our species, the creation of value judgments is not only made by the felt text of one isolated body, but also by other bodies that, as neurologist Lisa Feldman Barrett writes, balance other "body budget[s]" (see section **2.1**) and influence and reprioritize their drives. When a coordination ("spiritualization") has been achieved, the outcome is emerging cultures and traditions. It is for this reason that Nietzsche has *Zarathustra* say that "[a] tablet of the good hangs over

[131] Nietzsche, Friedrich. *Daybreak: Thoughts on the Prejudices of Morality*. Translated by Maudemarie Clark. Cambridge, Cambridge University Press, 1997. pp.76.
[132] As a reminder: , Spirit having had a connotation as that which causes "coordination" (of thought) into unity in the old way of using it, now, because it has been reduced to something of the body, there are as many "spirits" as there are parts that "constitute [the] body." Hence, there is a plurality in the organizational patterns that make up an "individual", mostly inaccessible to our consciousness.
[133] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 63.
[134] Nietzsche, Friedrich. *The Gay Science: With a Prelude in Rhymes and an Appendix of Songs*: Translated, with Commentary by Walter Kaufmann. Random, 1974, pp. 184.

every people. Behold, it is the tablet of their overcomings"[135], where the "good" is simply the drives they have prioritized over all others (all others which become base, and are translated as either bad or evil in Nietzsche's conception of Morality[136]) and "overcomings"[137] is the ability to meet a resistance and vanquish it (an individual's health over sickness, the resistance of a drive that would be detrimental to the organism and to a culture, etc.). Éric Blondel writes of the "felt text" that:

> "Prior to the body, there is no order, or relation, or *text*. And the world is the greatest possible multiplicity. A text comes into existence only through (or for) *drives*, which reduce this 'absolute' multiplicity. But this reduction is not, like that of the *intellect*, the introduction of unity: if the body interprets, it does so as affects, and if affects interpret, they institute a certain simplicity only in order to pluralize it, the affects constituting the unstable points of view of a *game* in which they exist only in the plural. Nietzsche's detour via the body is a detour through the *plurality* of *drives*."[138]

This "felt text" has served as the basis for the construction of moral systems that will guide a culture's tolerances and intolerances, hopes and fears, what it considers agreeable and disagreeable, etc. For example, the most obvious expressions of this reification and transmutation of the felt text into moral codes and cultural institutions are religious and legal codes. Nietzsche was not swayed to these more obvious forms of exaptations[139] of our felt texts, but instead looked to art in order to truly diagnose a culture.

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[135] Nietzsche, Friedrich. "Thus Spoke Zarathustra." *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1982, pp. 170.
[136] See Nietzsche's definitions of "master" and "slave" moralities in *On the Genealogy of Morals*.
[137] See Walter Kaufmann's *Nietzsche: Philosopher, Psychologist, Antichrist* for more on Nietzsche's conception of "overcoming".
[138] Blondel, Éric. *Nietzsche: The Body and Culture*. Translated by Seán Hand. Stanford University Press. Stanford, California. 1991. pp. 206-207. (My emphasis, except for "*game*").
[139] As a reminder: *Exaptation* is a term to "refer to features that have been co-opted from their initial adapted functions but which now enhance one's evolutionary fitness." Contrast this with adaptations which are "features created by natural. For more, see Coolidge's *Evolutionary Neuropsychology*.

Why art? Because it is one of the highest forms in which our psycho-physiological expressions are transformed into, and become embedded in, culture.[140] Diego Sánchez Meca explains this point succinctly when he writes that Nietzsche:

> "adopted the optics of art because he considers it the cultural dimension in which our physiological background most authentically expresses its instinctual devices. Art is, for Nietzsche both a symptomatology and an effect over life. It is a symbolic language in which life expresses itself as life ascending or descending."[141]

In other words, if you really want to know in what state of health a given culture is in, look to what their artists are producing and that the general population is consuming.

Damasio's theory of homeostasis and in his reinterpretation of it uses a similar "ascending and descending" language. Usually, homeostasis is taken to be the process that looks to keep any given organism stable. Meaning that homeostasis looks to leave the organism in a position of status quo: never upregulating. For Damasio, this is a somewhat lazy interpretation of that bodily process. As he says in his book:

> "The popular notion of homeostasis—if the reader can excuse the incongruity of having the words 'popular' and 'homeostasis' in the same sentence—conjures up the ideas of 'equilibrium' and 'balance'"[142]

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[140] A reminder from the "Introduction" of this thesis: Gregory Moore, in his book *Nietzsche and Science*[…]tells us that "[u]ltimately it is not science that Nietzsche views as a means of fashioning alternative frameworks for understanding and shaping the world, but art (or at least a synthesis of art and science)" and that "[a]rt is alone capable of creation and transformation; only it can affirm appearance and consequently life, and as such it does more justice to the contingent, provisional nature of the world."

[141] Sanchez Meca, Diego. *Nietzsche: la experiencia dionisíaca del mundo*, Madrid, Tecnos, 2013 (5ª edición), pp. 119 (My translation).

[142] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp.57.

And that:

> "[f]or years, I used to define 'homeostasis' by saying that it corresponded not to a neutral state but to a state in which the operations of life felt as if they were upregulated to well-being. The forceful projection into the future was signified by the underlying feeling of well-being.[143]"

"Well-being" here not meaning a state which the organism reaches and becomes static., but rather that which is constantly strived for, to which an organism constantly looks for more of. A never-ending upregulation. This is the reason Damasio is more inclined to using the term "homeodynamics"[144]. This draws an interesting parallel with Nietzsche's conception of a flourishing life as a constant "going up", in contrast with a decadent life, which, as the word implies, is one in the process of decay, or reformulated, a life that is in constant states of downregulation.

In Nietzsche this search for more upregulation is akin to well-being as concomitant to the increase of an organism's vital power. Take for example well-being to have as part of its side-effect's happiness: You feel well, hence you feel happy. In this case, happiness has its condition of possibility met once you reach a state of well-being. By the same token, a state of well-being is arrived at when upregulation is meant as an increase of vital powers.

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[143] Ibid.

[144] "I have greater sympathy for another term, 'homeodynamics,' coined by Miguel Aon and David Lloyd. Homeodynamic systems, as is certainly the case with living systems, self-organize the operations when they lose stability. At those bifurcation points, they exhibit complex behaviors with emergent characteristics such as bistable switches, thresholds, waves, gradients, and dynamic molecular rearrangements." Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp.59.
Though more will be seen of this in the coming pages, Damasio is largely influenced by XVII Century Philosopher Baruch Spinoza's language. You can read more of this in his highly recommended book *Looking for Spinoza.*
It is also an important caveat to make clear that Damasio does not actually use the term downregulation, but instead uses terms like "flourishing and death" or "suffering and flourishing." I use "downregulation" as an umbrella term for those counterparts to upregulation; words like death, sadness, and so on.

To the point of happiness, Nietzsche writes that "[t]he heightened feeling of happiness and life is also a heightened feeling of power: it is out of this that man praises (- out of this he invents and seeks a doer, a 'subject')" (NL 1887, 9[79])[145]. As we have seen, because man puts his grammatical "I" as the agent to which things occur and who makes things occur (is both passive and active), even this heightened feeling of power he assumes is out of conscious intent. As Damasio writes, "[t]he strategic pursuit of happiness, just like the spontaneous variety, is predicated on feelings".

The role of homeostasis, then, is the monitor of this struggle, and in minded creatures like us, what allows feelings that translate "upregulation" as happiness, satisfaction, and anything else that allows our felt text to manifest itself in a "symbolic language in which life expresses itself as life ascending" (or descending in cases of downregulation).

In his redefining of homeostasis as homeodynamics, Damasio discusses four main objectives:

- First that "the homeostatic process strives for more than a mere steady state."
- Secondly, "physiological operations rarely abide by thermostat-like set points."
- Thirdly: the inclusion of "concept systems" such as consciousness and deliberative minds and their impact on homeostasis and vice versa
- And fourth, that "the essence of homeostasis is the formidable enterprise of managing energy—procuring it, allocating it to critical jobs such as repair,

[145] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 152.

> defense, growth, and participation in the engendering and maintenance of progeny."[146]

We will be examining all these points as they relate to Nietzsche's own perspectives of the intertwining and consequential effects of physiology upon the world, and vice versa.

3.2 Striving

"[A]ll expanding, incorporating, growing is a striving against what resists… - What do the trees in a jungle fight each other for? For 'happiness'? – For power . . ." (NL 1887-1888, 11[111])[147]. Thus writes Nietzsche in one of his notes from November 1887-March-1888, as for Nietzsche, the wills to power manifest themselves in tension, struggle, and in resistance. It does so because when one force encounters another, a kind of invisible battle ensues. What is behind the "why?" of the confrontation is what interests us here, and it is the striving to overcome any and all opposition that gets in the way of an organism's reward of increasing its own vital powers. This exists in all strata of life, bacteria being one of the most interesting ones, as Damasio explains:

> "It is known that bacteria growing in fertile terrain, rich in the nutrients they need, can afford to live relatively independent lives; bacteria living in terrain where nutrients are scarce band together in clumps. Bacteria can sense the numbers in the groups they form and in an unthinking way assess group strength, and they can, depending on the strength of the group, engage or not in a battle for the defense of their territory. They can physically align themselves to form a palisade, and they

[146] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp.56.
[147] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 221.

> can secrete molecules that constitute a thin veil, a film that protects their ensemble and probably plays a role in the bacteria's resistance against the action of antibiotics. By the way, this is what goes on routinely in our throats when we get a cold and develop pharyngitis or laryngitis."[148]

Damasio here is making two points clear that Nietzsche had anticipated: First, that consciousness is not the only path to intelligence, and even more so, is not even necessary for survival, a point which Damasio emphasizes in using the term "unthinking". Secondly, that the body serves as the intelligent agent throughout these "unthinking" actions, "unthinking" movements, which allow bacteria to fall or thrive in their striving for power. The homeodynamic process behind their striving is not meant to keep them in status quo, but rather to become stronger, always upregulating in order to better defend or attack hostile elements.

We find this aspect of striving in plants, as well, something that Nietzsche shrewdly observed above. Damasio explains that "[p]lants can sense the presence of certain molecules in the soil—the tips of their roots are sensory organs, in fact—and they can act accordingly: they can grow in the direction of the terrain where the homeostatically required molecules are likely to be."[149] Striving, then, is to be found in all organisms, and in all forms of life (Eagleman's thesis that the brain *strives* towards its goal of creating an internal model of the outside world forms a part of this). A common influence in both Nietzsche and Damasio can be traced to Baruch Spinoza, the philosopher that influenced Damasio's conception of striving:

[148] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 24
[149] Ibid. pp.55.

> ”In Spinoza’s own words, ‘Each thing, as far as it can be its own power, strives to persevere in its being,’ and ‘The striving by which each thing strives to persevere in its being is nothing but the actual essence of the thing.’ Interpreted with the advantage of current hindsight, Spinoza says that the living organism is constructed so as to maintain the coherence of its structures and functions, for as long as possible, against the odds that threaten it.”[150]

Nietzsche was also deeply influenced by Spinoza, as he writes in a letter to his friend Overbeck in July of 1881 that he is “utterly amazed, utterly enchanted” in that he has “a precursor” in Spinoza and that he “should have turned to him just now, was inspired by ‘instinct.’” He goes on to say that he recognizes in himself Spinoza’s denial of five main doctrines: “he denies the freedom of the will, teleology, the moral world order, the unegoistic, and evil.”[151] The main difference between Nietzsche’s interpretation and Damasio’s is that the latter recognizes that when Spinoza writes persevere, he is not talking about a neutral state of existence (like the former interpreted[152]), but a constant upregulating towards perfection. Spinoza writes that:

> “We see, then, that the mind can undergo great changes, and pass now to a greater, now to a lesser perfection. These passions, indeed, explain to us the affects of Joy [laetitia] and Sadness [tristitia]. By Joy, therefore, I shall understand in what follows that passion by which the mind passes to a greater perfection. And by

[150] Ibid. pp. 43.

[151] Nietzsche, Friedrich. “Postcard to Overbeck”. *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1982, pp. 92.

[152] In *Beyond Good and Evil* 13 (same edition as quoted throughout this work, pp.15), Nietzsche writes: “Physiologists should think twice before positioning the drive for self-preservation as the cardinal drive of an organic being. Above all, a living thing wants to discharge its strength – life itself is will to power –: self-preservation is only one of the indirect and most frequent consequences of this. – In short, here as elsewhere, watch out for superfluous teleological principles! – such as the drive for preservation (which we owe to Spinoza’s inconsistency –). This is demanded by method, which must essentially be the economy of principles.” Nietzsche did not read Spinoza directly. Instead, he read Kuno Fischer’s entry for Spinoza in his *History of Modern Philosophy*, so it is not surprising that he mistakes Spinoza’s “persevere in its being” for an organism “striving” to reach a constant state of status quo, instead of actions that lead to a greater or lesser perfection.
For more on this, please refer to: De Pablos Escalante, R. (2017) “Las pulsiones y la pregunta por el entender: Spinoza, Nietzsche y Kuno Fischer”, en *Logos. Anales del Seminario de Metafísica* 50, 165-186.

> Sadness, that passion by which it passes to a lesser perfection." (III Proposition 11, Scholium)[153]

It is important to *understand* that the passions play a strong role in the movement of an organism towards a better or worse life, and if we are to *understand* the world from the "perspective of our desires and passions" (as we have seen from BGE 36), it follows that all rational thought (*understanding*) is somehow dependent on both those perspectives as conditions of possibility.

Damasio's interpretation on this in his book *Looking for Spinoza* is spot on when he writes:

> "We can agree with Spinoza when he said that joy (*laetitia* in his Latin text) was associated with a transition of the organism to a state of greater perfection. That is greater perfection in the sense of greater functional harmony, no doubt, and greater perfection in the sense that the power and freedom to act are increased."[154]

This sentiment is echoed in Nietzsche when he writes:

> "That there is considerable enlightenment to be gained by positing power in place of the individual 'happiness' each living thing is supposed to be striving for: 'It strives for power, for an augmentation of power'." (NL 1888 14[121])[155]

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[153] Benedictus De Spinoza, and E M Curley. *A Spinoza Reader: The Ethics and Other Works*. Princeton, N.J., Princeton University Press, 1994. pp. 160-161.
[154] Damasio, A R. *Looking for Spinoza: Joy, Sorrow and the Governance of Life*. London, Heinemann, 2003. 138.
[155] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 256.

These two passages are exemplary when it comes to what is meant as striving tied into the redefinition as homeodynamics as opposed to homeostasis, and specifically why this reconceptualization is justified. There is no ceiling to the homeodanymic's upregulating principle, meaning that when we get sick, the body doesn't just strive for well-being in a measured and a desire to return to a static value (numerically) but rather looks to, in a nonlinguistic way, redefine what well-being itself means for the organism. This is also what Nietzsche means when he writes "what doesn't kill you, makes you stronger"[156]: You have assimilated the experience, made it a part of you, and that has allowed you to have stronger defenses against similar experiences. The weak willed[157], on the other hand, will never have this advantage. They will never be able to strive because their experiences are poisonous to their organism, and thus create a downregulating circle of resentment.

3.3 A Dynamic Thermostat

This concept of striving as that which reaches out of the status quo and to higher modes of existing of an organism means that there is no set value to the finality of its development. But "[o]n the contrary, there are shades and grades of regulation; there are

[156] Nietzsche, Friedrich. "Twilight of the Idols." *The Portable Nietzsche*. Translated by Walter Kaufmann, Penguin Books, 1976.

[157] In *Beyond Good and Evil* 21 he writes: "The "un-free will" is mythology; in real life it is only a matter of strong and weak wills." Of course, as seen in 3.2, the "will" itself has unity only as a word, hence we can interpret weak willed as those whose physiological apparatus is not strong enough to properly and effectively assimilate experiences. Akin to this is his concept of Master and Slave morality. For more on that, read *Genealogy of Morals* 260. This seems to run counter to another idea he proposed in his *Nachlass,* Spring of 1888, where he states that "Weakness of the will: this is a metaphor which can be misleading. For there is no will, and hence neither a strong will nor a weak one. Multiplicity and disaggregation of the impulses, lack of system among them, results as 'weak will'; their coordination under the dominance of a single one results as 'strong will'" (14[219]). But this is because, as I said will be seen in 3.2, there is no "will" as a unity except for multiple complex processes. So, in a way, there are no strong or weak wills as a unified word, but there are in the sense of the dynamic organizations.

steps along scales that ultimately correspond to the greater or lesser perfection of the regulatory process."[158] It is because of these "shades and grades" that Nietzsche himself believes that life is not quantitative but qualitative. In other words, life cannot be reduced to mathematical concepts, fixed numerically and measured, but is felt qualitatively, experientially, as an affect[159] which is never fixed:

> "Need I add, conversely, that quantities 'in themselves' do not occur in experience, that our world of experience is only a qualitative world, that consequently logic and applied logic (such as mathematics) are among the artifices of the ordering, overwhelming, simplifying, abbreviating power called life…" (NL 1886-1887, 6[14])[160]

It is because of a similar train of thought that Damasio concludes that "physiological operations rarely abide by thermostat-like set points"[161]. This is because for Damasio, like for Nietzsche, an organism would be something akin to an organizational and dynamic model of parts struggling for resources and realty, and not merely for the sake of survival. It seeks to upregulate its functions, interpreting and acting in its interest while being deeply tied to the external. Günter Abel further elaborates Nietzsche's thoughts on this:

> "Nietzsche conceives of the organism as an organizational structure in which consciousness, awareness, and all further mental states and processes up to and including conscious thought are emergent characteristics which result from highly

[158] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 53-54.
[159] Life as an affect.
[160] Nietzsche, Friedrich Wilhelm. *Writings from the Late Notebooks*. Edited by Bittner Rüdiger. Translated by Kate Sturge, Cambridge University Press, 2009, pp. 125.
[161] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 53.

> complex interactions of the system's components that guarantee the organization's functionality."[162]

This in contrast to a view that would define an organism as that which is unified and always in cooperation for the sake and survivability of said unity. This aspect of the organism being an organizational and dynamic model of struggling parts is backed by the idea of the etymology of the word for "organism" itself. Francisco José Ramos illustrates this point succinctly:

> "In its original Greek sense, *organon* means a tool, utility, and a principle of organization[…]. But […] it would be a contradiction to talk of a 'utilitarian' conception of the brain for we would have to think of a suprasensible and transcendent entity whose intelligence would permit it to use the brain with a view of planning its utility and providence."[163]

As much as it would be a contradiction to talk of a "utilitarian conception of the brain", so it is with every other part composing the "organisms inner struggle." The dynamic aspect comes about precisely because of said struggle. Whether one overcomes or falls into obedience when facing such struggles, will dictate the affects felt, raising them to the level of feelings in minded creatures like us. Damasio writes that "the source of feeling is life on

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[162] Abel, Günter. "Consciousness, Language and Nature: Nietzsche's Philosophy of Mind and Nature." *Nietzsche On Mind and Nature*, edited by Dries, Manuel, and P. J. E. Kail. Oxford: Oxford UP, 2015. Print, pp. 44

[163] Ramos, Francisco José. *Estética del pensamiento III: La invención de sí mismo*. Editorial Fundamentos. 2008. pp. 94 (My translation).
It's important to state that Ramos sees an Organism as that which is dynamic and multiple, and has it as a part of a quartet of central concepts in his book: Body-Organism-Brain-Mind, each one distinct, but not separated, from each other. Body and Organism are distinct in a similar way as *körper* and *leib* are used in this thesis, as seen in section 1.3.).

the wire, balancing its act between flourishing and death. As a result, feelings are mental stirrings, troubling or glorious, gentle or intense."[164]

This does not mean that Damasio denies the importance that downregulating processes may have on the creative process of cultures. He explains that

> "It is […] clear that unpleasant feelings induced by external events rather than due to primarily disturbed homeostasis actually lead to states of disturbed life regulation. Continued sadness motivated by personal losses, for example, can disturb health in varied ways—reduce immune responses and diminish the alertness that can protect us from everyday harms[…]. Both on the good and on the bad sides of the feeling coin, feelings fit the role of motives behind the development of the instruments and practices of cultures."[165]

In other words, extirpating these so-called "negative" emotions and feelings would hinder the creative processes of our species, and this is especially damning in today's society which looks to things like social media and other methods of distraction for constant comfort and validation of their own ideas, never daring to cross the line into opposite thoughts, for fear of feeling uncomfortable. This has the consequence of creating bubbles and unconsciously approving of creative stagnation. It is necessary to acknowledge the existence of the whole realm and spectrum of human emotions and feelings that cannot only affect our sense of selves, but how our sense of self can affect them as well. An example of this is when he tells us that:

> "The sort of automated homeostasis that we find in bacteria, simple animals, and plants precedes the development of minds later to be imbued with feelings and consciousness. Such developments gave minds the possibility of deliberate

[164] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 19.
[165] Ibid. pp. 147.

> interference with preset homeostatic mechanisms and even later allowed creative and intelligent invention to expand homeostasis into the sociocultural domain."[166]

Seen within the perspective of Abel's model of continuum, we have here a prime example of the organic appearing as the "developmental and continuous preparatory stage of consciousness", and furthermore, of culture itself.

3.4 There and Back Again: A Homeostasis and Consciousness Tale on the Road to Culture

Nietzsche borrows Roux's language of nutrients, expansion, resources throughout his works. For Roux, "the assimilation and replacement of expended energy is not proportional, however, to the expenditure. A cell, tissue or organ does not simply compensate losses incurred when functionally excited but assimilates more than is required to regenerate itself. When a part thus overcompensates its losses, it grows and expands."[167] In other words, all organisms seek to reach beyond whatever status quo they find themselves in, by acquiring and expending more energy than they need to simply survive. When they succeed, upregulation is the reward. "The parts that assimilate the most material and regenerate the fastest are victorious and are able to survive and grow"[168], where "grow" can be interpreted as the opposite of status quo: as part of the upregulating process of homeodynamics.

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[166] Ibid. pp. 56.
[167] Soderstrom, Lukas. "Nietzsche as a Reader of Wilhelm Roux, or the Physiology of History."Symposium, vol. 13, no. 2, 2009, pp. 55–67., doi:10.5840/symposium200913224. pp. 58.
[168] Ibid.

It is in this expansion through an excess of energy expenditure that much of the evolution required to create minds took place. A "desire" for more energy requires better tools and more complex systems to obtain, each one building on simpler systems that preceded it[169], and this led to "[c]omplex, conscious, feeling minds" which "inspired and steered the expansion of intelligence and language and generated novel instruments of dynamic homeostatic regulation external to living organisms."[170] One of these "novel instruments" as we have seen is the linguistic conceptualizing of emotions through feelings that can "disturb what might otherwise be an indifferent mental flow."[171] In other words, Feelings as mental translations mean words that describe emotions felt that can also interject and modify behavior, shifting emotions by projecting into the future the desired state of being in conscious and thinking organisms: Feelings that guide future projections. Empirically, humans are the only creatures that can project desired states of being far into the future. When we do it as a group, we think of what will allow us to flourish as a community. We then create moral, political, religious, etc. systems that will help reach the projected goal. As Damasio explains, when contemplating pain or death, humans would have "drawn on their expanding individual and collective resources and invented a variety of responses that ranged from moral prescriptions and principles of justice to modes of social organization and governance, artistic manifestations, and religious beliefs."[172] These

[169] "That several complex functions of the higher nervous system have their functional roots in simpler operations of the lower devices of the system itself; for this reason, for example, it has not been productive to first look for the grounding of feeling and consciousness in the operations of the cerebral cortex; instead, as discussed in part II, the operation of brain-stem nuclei and of the peripheral nervous system offers better opportunities to identify precursors to feeling and consciousness." Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 73.
[170] Ibid. pp. 39.
[171] Ibid. pp 19.
[172] Ibid. pp 20.

guided by projections of the future that are in turn consciously guided by feelings which are monitored by nonconscious homeodynamic processes.

Damasio is giving a description of what happens when we project seemingly neutral futures based on present feelings. In other words, he is not telling us whether the moralities formed are ones that allow humans to flourish or not (and I purposefully emphasize morality here, as they are the basis for political and religious codifications). In contrast, for Nietzsche the question of the value of morality is imperative:

> "under what conditions did man invent the value judgments good and evil? and what value do they themselves have? Have they up to now obstructed or promoted human flourishing? Are they a sign of distress, poverty and the degeneration of life? Or, on the contrary, do they reveal the fullness, strength and will of life, its courage, its confidence, its future?" (GM, "Preface" 3)[173]

This question for the future is never neutral for Nietzsche, and this is mainly because of two traits that Charlie Huenemann has identified as essential to all living organisms (within Nietzschean philosophy): interpretation and interests[174], which in turn form another one of Nietzsche's main concepts: that of perspective. Huenemann writes that an "entity can be usefully regarded as 'striving' toward certain outcomes. Any entity with a perspective both interprets and has interests, and any entity which both interprets and has interests has a perspective."[175] Having a perspective means having a biased outlook on the future because it is framed within a specific mode of existence brought about an organism's

[173] Nietzsche, Friedrich. *On the Genealogy of Morality and Other Writings*. Edited by Keith Ansell-Parson. Translated by Carol Diethe. Cambridge University Press, 2006, pp. 5.
[174] Huenemann, Charlie. "Nietzsche and the Perspective of Life". *Nietzsche on Consciousness and the Embodied Mind*, edited by Manuel Dries. Berlin, De Gruyter, 2018. pp. 275.
[175] Ibid.

interpretations. In the language of Damasio this would be the homeostatic monitoring of present states -do they allow for flourishing or not-, and interests that are "revealed by dispositions to behavior; specifically, an entity with interests tends to behave so as to bring about a particular outcome, and strives to bring about that outcome in different ways, depending on the circumstance."[176] When multiple future thinking organisms band together and strive and "behave so as to bring a particular outcome", the seeds of a culture are planted.

This view on perspectivism is something that Damasio shares with Nietzsche. He writes:

> "Subjectivity requires a perspective stance on the making of images and the pervasive feelingness that accompanies image processing, both of which come straight from the body proper. They result from the incessant tendency of nervous systems to sense and make maps of objects and events not only around the organism but also inside it."[177]

In other words, like Nietzsche, Damasio understands the body to be in a constant state of environmental interpretation that expresses itself both exteroceptive and interoceptively. That these expressions sublimate to create cultures is no surprise. Diego Sánchez Meca explains this continuum:

> "…from the genealogical perspective, the coordination of the organic world… is nothing more than the chaining of beings that make possible their existence in

[176] Ibid.
[177] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 160.

> <<worlds>> they have constructed by projecting their force, desires, common experiences outside of themselves, creating from them their external world."[178]

This construction of the outside world is wholly dependent on the kind of organism that builds it. A bacteria, for example, cannot develop the same kind of culture a human has, for it lacks the "mind" to do so, but it *will* create a culture that *it can* base on the foundational aspects of their anatomy and the perspectives it creates. Nonetheless, it *is* a culture, just not ours:

> "In the complex, albeit un-minded, social dynamic they create, bacteria can cooperate with other bacteria, genomically related or not. And in their un-minded existence, it turns out they even assume what can only be called a sort of "moral attitude." The closest members of their social group, their family so to speak, are mutually identifiable by the surface molecules they produce or chemicals they secrete, which are in turn related to their individual genomes. But groups of bacteria have to cope with the adversity of their environments and often have to compete with other groups in order to gain territory and resources. For a group to be successful, its members need to cooperate."[179]

And what is a great part of a culture if not a community (of any given organism) that is formed by the need for cooperation to achieve certain goals? At first these goals might be small, like survival in the case of "un-minded" creatures like bacteria: "Bacteria do not engage in phenomenology"[180], but nonetheless it:

> "…would be … foolish … not to recognize that simple bacteria have governed their lives for billions of years according to an automatic schema that foreshadows

[178] Sanchez Meca, Diego. *Nietzsche: la experiencia dionisíaca del mundo*, Madrid, Tecnos, 2013 (5ª edición), pp. 158 (My translation).
[179] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 26-27.
[180] Ibid.

> several behaviors and ideas that humans have used in the construction of cultures […]. When we introspect and search our minds for how we should act, we do find "hunches and tendencies," hunches and tendencies that are informed by feelings or *are* feelings."[181]

And those feelings themselves draw their "power" from the organism's homeodynamic regulations. This process of homeodynamics is what links us to our primal past. All organisms, be them unicellular or extremely complex like the human species, share this interoceptive monitoring advantage through homeodynamics. Nietzsche's conception of the body as that which engages in "'intelligent' activities (in the broadest sense of the term) such as identifying, localizing, perceiving, demarcating, classifying, and estimating" (see section **1.3**) serves as an anticipatory argument to this. But as cultures become more and more complex, the "goals" themselves become more and more complex. Once the need for survival is easily achievable (say by the sheer size and outnumbering of a species or technological advances that allow them to dominate over others as apex predators), it is superseded by more complex forms of behavior, like intentional[182] moral systems and laws. Survival itself cannot explain this complexity. As Damasio explains, "[p]resenting survival as a motive will not do because it removes the reasons why survival would be a matter of concern. It is as if creativity would not be embedded in the complex edifice of affect." In other words, creativity itself depends largely on affects which monitor the process of cultural evolution, and those affects begin in the body, not consciousness. Once again, we see the "body as the guiding thread" prevail as that from which cultures themselves arise,

[181] Ibid. pp. 28.
[182] Read deliberated and reflected upon, which only happens in consciously minded creatures like humans.

be it cultures in the form of bacteria, or those emerging[183] from brain/minded creatures like us.

By adding depth and dimension to what may simply be cold hard data, Nietzsche's methodology on the study of the body as the guiding thread could be a valuable addition to today's scientific domain. It "could be", because at the moment, it is highly ignored. Why that is has multiple factors, which would fall outside the scope of this thesis' jurisdiction, but for now one can quickly say that: 1) his faux association with the Nazis turned him into an international pariah for the longest time, and it wasn't until Walter Kauffman rescued him that he began to be read once again in the English speaking world, and 2) when he was still alive, his works were too obscure and difficult to read; too philosophical for the masses and the scientific community. If Roux's works were themselves considered too philosophical, what chance did Nietzsche stand?

Nonetheless, it is the twenty-first century now, and Nietzsche's work could help guide the scientific explorations into consciousness and the Self to ask the questions that will have the biggest impact on our ethical perspectives, and hence, our daily lives. Of course, this brings with it its own set of problems, one of the biggest being the hyper-specialization in universities, which is culpable for one side never hearing what the other side has to say. Evolutionary biologists Heather Heying and Bret Weinstein, who were introduced in **1.3**, respond precisely to this call when writing that, "it is time to innovate, because change is accelerating, and the received cultural wisdom isn't sufficient.

[183] That which requires of many complex processes to exist I define as that which is "emergent", and the brain is the most complex in the known universe, not to mention more than 7 billion of them.

Individuals themselves becoming more generalist—through learning skills across domains, for instance, rather than diving deep into only one—will help us in this endeavor."[184]

[184] Heying, Heather E, and Bret Weinstein. *A Hunter-Gatherer's Guide to the 21st Century: Evolution and the Challenges of Modern Life*. New York, Portfolio, 2021. pp. 226

Conclusion

Thanks to serious practitioners of science such as David Eagleman and Antonio Damasio who, like Roux, consider philosophical implications in their work, some of Nietzsche's scientific views and insights are sustained to this day. Nietzsche's enthusiasm in learning as much as he could about the natural sciences (*Wissenschaft*), while keeping a healthy skepticism and not falling prey to scientific overvaluation when following the body as the guiding thread was studied in the first chapter. It was demonstrated that Nietzsche was greatly inspired by Wilhelm Roux and his theory of evolutionary embryology, of which Roux is considered the "grandfather" of by practitioners of that discipline, and which paved the way for Nietzsche's idea of the body as the guiding thread.

The body for Nietzsche was not a static and measurable object, but that which has unity only as a word, and is rather a struggle of its inner parts (which are dynamically embodied in the world and the culture it is embedded in) creating an endless feedback/feedforward loop, with consciousness serving only as a "small tool" to the rest of the body's more intricate and intelligent parts. This then leads to his conception of the "Self" as not the conscious self, but as a dynamic aspect of the body (which interprets the world and acts in its interests, not merely to survive but to increase its vital powers through a deeper connection with life).

Following this idea of the "body as the guiding thread", a connection was made in the second chapter of this thesis between Nietzsche's anticipatory insights on the Self with its non-reductionists ties to the grammatical "I" and consciousness. Nietzsche's insights were approached using Günter Abel's model of continuum as an appropriate investigative style. This leads the critiques of the conscious "I" to the unconscious/nonconscious

processes of our organism as that which "steers the ship" of our lives and *creates* the "I". To support these claims, the work of contemporary neuroscientists, such as David Eagleman, were referenced. Eagleman's critique of the grammatical "I" is as scathing as Nietzsche's, only with the advantage of experimental techniques developed post to Nietzsche's passing (in 1900) to support his arguments.

In the third chapter, we established the body and the world of affects not only as creators of the Self, but also of culture as a whole. The importance of the "felt text" for Nietzsche was investigated, and analogues were drawn with Damasio's concept of homeodynamics. Like the Nietzschean conception of the will-to-power, the concept of homeodynamics provide us humans with the "feelings" of upregulation or downregulation of an ascending or descending life. It serves as motivation for humans to strive for higher forms of cultural and individual development. In both cases, the realm of feelings is at the center of activity and act as a guide for the creation of cultures (remembering *Zarathustra's* "table of the good"). The feedback that ensues between cultures and the bodies that compose it was explored: Feelings that are the locus for every judgment value that are then extrapolated into legal and religious institutions, carved out of the marble of moral codes. Moral codes that are the synthetic results of multiple complex hidden processes that flow from bodily affects to the formation of cultures, flowing back to the body in the form of drive reprioritization. This loop will be everlasting as long as there are bodies to serve as "texts" to life's processes. As Éric Blondel wrote, "[p]rior to the body, there is no order, or relation, or *text*."[185] Such is the human condition, which Nietzsche and the cohort of contemporary scientists recruited to answer the proposed question saw, and see, clearly.

[185] Blondel, Éric. *Nietzsche: The Body and Culture*. Translated by Seán Hand. Stanford University Press. Stanford, California. 1991. pp. 206.

Neither Damasio nor Eagleman are free from their historical contexts, of course. One must ask what the limits and end goals are to each of their projects. Especially since science has been so marred in institutional politics and capitalist interests that one has to sift through studies with a grain of salt (who funds which studies and so on). In Eagleman's case, morality itself is called into question by the elimination of the Self as equal to the "I", and hence a questioning of conscious intent itself. While his company Neosensory forms a part of this capitalistic apparatus, Eagleman's project can be seen as an honest dive into the Spinozean proverb of «non ridere, non lugere neque detestari, sed intelligere» (not to laugh, mock, or detest, but rather understand).

Damasio also sees a fault in the way we have constructed a lot of the insights and judgments of "human nature" by consigning them to the reign of consciousness and bypassing the insights given to us through our biology. He makes this clear when writing that "[i]ntending to tell a story about the substance and consequences of human feeling, I came to recognize that our ways of thinking about minds and cultures are out of tune with biological reality."[186]

There is in Nietzsche a more tragic dimension to science that neither Eagleman nor Damasio seem to share with him. In science's pursuit of truth at all costs, it forgets the question of which truths are hostile to life and which untruths benefit it (which he argues for in OTLES). Nietzsche would find it important to ask, "what kind of life would defend

[186] Damasio, Antonio. *The Strange Order of Things: Life, Feeling, and the Making of Cultures.* Vintage, 2019, pp. 13.

these kinds of enterprises?". Babette Babich has done an excellent job of elucidating this dimension of Nietzsche, so it will not be necessary to go deeper into this here.[187]

Readers of Nietzsche might ask why the use of his all-important term "will-to-power" was so scarcely used throughout this thesis, and they would be right to do so. The simple answer is that it is an extremely broad concept that can be, and has been, explored in a thesis all by itself. It is marred in controversy, with some reading it as a metaphysical claim by Nietzsche (which can certainly be read as such), and others, like the author of this thesis, as part of Nietzsche's idea of the multiplicity of processes that are inherent to life. In the latter's case, Wills-to-power would be more accurate (in plural). Yet, the concept still has pitfalls in that it may seem to be too anthropocentric in nature, though one can justify this by arguing that this just proves Nietzsche's point about language: That it will always be inherently metaphorical.

It is important to clarify as well that his use of the word "power" must be seen in an amoral sense. Power is neither good nor bad. It simply *is*. Within Nietzschean philosophy, power is akin to the ability to act, and it is tied to the striving of life affirmation. His philosophy must be seen, first and foremost, as a philosophy of liberation.

One question that might arise in response to this thesis and its investigation is, why? What is the ulterior motive of the author in writing such a thesis? What is the point in saying that Nietzsche has modern allies who, either knowingly or not, confirm a lot of his past ideas? One of the motivations in writing this thesis was the desire to continue

[187] Babich, Babette, "Ex aliquo nihil: Nietzsche on Science and Modern Nihilism. ACPQ, 84-2 (Spring 2010): 231-256." (2010). *Articles and Chapters in Academic Book Collections*. 27. https://fordham.bepress.com/phil_babich/27

Nietzsche's task of translating man back into nature. The problem of blameworthiness, for example, still relies on the assumption that a person's grammatical "I" is in charge of all their actions. David Eagleman touches upon this in *Incognito*:

> "As far as the legal system sees it, humans are practical reasoners. We use conscious deliberation when deciding how to act. We make our own decisions. Thus, in the legal system, a prosecutor must not merely show a guilty act, but a guilty mind as well. And as long as there is nothing hindering the mind in its control of the body, it is assumed that the actor is fully responsible for his actions. This view of the practical reasoner is both intuitive and—as should be clear by this point in the book—deeply problematic. There is a tension between biology and law on this intuition. After all, we are driven to be who we are by vast and complex biological networks. We do not come to the table as blank slates, free to take in the world and come to open-ended decisions. In fact, it is not clear how much the conscious *you*—as opposed to the genetic and neural you—gets to do any deciding at all."[188]

This line of reasoning takes on the legal assumptions of culpability head on, further demonstrating how deep the tendrils of "the reign of consciousness" go. This proposition is similar to Spinoza's when he suggests understanding before despising:

> "Most of those who have written about the Affects, and men's way of living, seem to treat, not of natural things, which follow the common laws of nature, but of things that are outside nature. Indeed they seem to conceive man in nature as a dominion within a dominion. For they believe that man disturbs, rather than follows, the order of nature, that he has absolute power over his actions, and that he is determined only by himself .... For now I wish to return to those who wish to curse or laugh at the affects and actions of men, rather than understand them."[189]

[188] Eagleman, David. *Incognito, The Secret Lives of the Brain*. Pantheon Books, 2020, pp. 171-172.
[189] Benedictus De Spinoza, and E M Curley. *A Spinoza Reader: The Ethics and Other Works*. Princeton, N.J., Princeton University Press, 1994. pp. 152-153.

It is much easier to detest than to understand, for understanding requires work. It requires not reacting immediately to the things we see, to dust off whatever preconceived notions of morality have been burnt into our wiring from the moment we were born, and to search deeper considering the body as the guiding thread. This is not to suggest that reflexive consciousness doesn't hold some control over bodily actions: it does. But as Hume said, "reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them."[190] It is on us to understand the reason behind this.

Following this line of thought, this thesis will serve as a prelude and foundation to a future investigation, where other questions regarding Nietzsche's philosophy will be pondered upon and hopefully answered. I will try and explore a few questions that have long since been the motivation for my studies in Nietzsche's philosophy. For example, in the study of ethics, and utilizing all the studies we have in this thesis, I wish to answer questions such as: What are the possible valuative extrapolations when *thinking* about the *results* of said investigations? What are the impacts of those valuative extrapolations on the ethical dimensions of humanity? Correspondingly, Nietzsche's ideas on the "body" will be the operating background concept throughout future investigations.

[190] Wright, John P. *Hume's "a Treatise of Human Nature" : An Introduction*. Cambridge, Cambridge University Press, 2009.

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