Theory of Differentialism

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by

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Submitted to the Faculty of Art and Science
degree of

UNDERGRADUATE IN PHILOSOPHY DEPARTMENT

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ABSTRACT

Change is omnipotent, differentialism is omnipresent. Philosophy rigorously interrogates perceived realities, employing a disciplined methodology to address the fundamental existential questions: the essence of existence, its underlying reasons, and the processes that sustain it. This exploratory approach, a natural human tendency evident across life stages, has profoundly influenced the development of theories across various disciplines, reshaping our worldview and altering historical narratives. Yet, this iterative process of thought and cognition often culminates in deeply entrenched beliefs, accepted without critical scrutiny and justified by 'rational methodologies.' Recognizing these biases, philosophers have historically devised strategies to confront and mitigate such preconceptions. Despite these efforts, the discourse often remains anchored in a self-referential historical context, necessitating a paradigm shift to accommodate the accelerating pace of change.

This thesis employs descriptive and normative methods to scrutinize the rational processes of perception, cognition, and action. I introduce the differential framework, a robust construct that encapsulates this cyclical process of sense-making. This framework uses pre-existing understandings as a basis to articulate new perspectives on the evolving world. The discourse is particularly relevant to the philosophy of mind, information, and ethics, especially as we confront the profound implications of AI and transhumanism. Rapid advancements in these fields challenge our traditional methods and demand adaptive responses, urging a reevaluation of our ethical frameworks and cognitive models in light of emerging realities.

This work seeks to bridge the gap between classical philosophical inquiry and the urgent questions posed by the next steps in human evolution, emphasizing the necessity of integrating technology with humanity in a way that respects and enhances fundamental human values.

Thesis supervisor: Lucas Thorpe
Title: Professor of Philosophy

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Contents

Chapter 1

The Introduction

"Everything is in flux and nothing is at rest"
Heraclitus

What is philosophy? The interpretation of this question varies widely. For an Empiricist, it is grounded on sensory experience and observations. A nihilist, on the other hand, denies any inherent meaning in philosophical inquiry. Meanwhile, in Ancient India, philosophy was regarded as 'Darshana'—literally meaning 'view' or 'sight'—reflecting a deep engagement with existential questions. Islamic philosophy too, has woven together its unique interpretive frameworks with the mathematical traditions and the philosophical legacies. This diversity highlights the varying perceptions and methodologies within philosophical discourse. But do these differences arise because we perceive things differently, or because what we perceive is inherently varied? Or perhaps, it is our questions that differ, even if our perceptions do not. Do we question because we perceive, or perceive because we question?

As we delve deeper into the nature of philosophical inquiry, it becomes increasingly abstract. Each question raised often leads to more questions, seldom offering concrete answers. How can such an intuitive act of thinking become so seemingly abstract and disconnected from our instinctual understanding? Addressing this is as crucial as René Descartes' assertion Cogito, ergo sum[1]: If we cease to think, do we cease to exist?

We think not merely because we are surrounded by questions, but because we are driven to find answers. It appears that having a reproductive advantage has influenced the evolution of the human brain and complex social dynamics. The human brain, as speculated by Humphrey in 1976, has evolved primarily as a social tool to navigate the intricacies of social life[2], as further supported by Richard D. Alexander's discussions on evolutionary advantages[3].

Human cognitive evolution, shaped by natural selection, uniquely equips us with the abil-

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[1](I think, therefore I am)

[2]Humphrey, Nicholas. *The Social Function of Intellect.* Cambridge: Cambridge University Press, 1976.

[3]Richard D. Alexander, *How Did Humans Evolve? Reflections on the Uniquely Unique Species*, Museum of Zoology, The University of Michigan, Special Publication No. 1, 1990.

ity to engage in second-order logic, distinguishing us from most other animals confined to first-order logic. This capability underscores the sophisticated cognitive faculties that have evolved over millennia. Unlike first-order logic, which quantifies over individual entities, second-order logic quantifies over sets or relationships, enabling more abstract reasoning. This can be exemplified through the second-order quantification:

$$\forall P(\forall x\, P(x) \rightarrow \exists y\, P(y))$$

This expression states that for any property P , if P is universally true for all individuals x , then there must be at least one y for which P(y) holds. This ability to abstract over properties or classes instead of only individuals permits a deeper, more complex form of thought.

Despite the abstract nature of formal logic, its utility in facilitating abstract and relational thinking remains undeniable. The frameworks provided by second-order logic foster the discovery of innovative information, which has historically enabled humans to fashion tools from raw materials—such as turning iron or stone into spears—by understanding the relational dynamics between them. Consider the following application of second-order logic to exemplify the formal statement above:

$$\forall \text{Material}\, (\forall x\, \text{Workable}(x) \rightarrow \exists y\, \text{Spear}(y))$$

This formulation states that for any material, if it is workable by all measures x, then there exists at least one transformation y in which the material can be fashioned into a spear. This logical framework helps in conceptualizing how materials can be manipulated based on their properties, enabling the creation of useful tools.

Although such reasoning skills are universal to humankind, the conceptualization of relational thinking remains encapsulated through environmental interactions. Early civilizations typically developed in fertile geographical regions, marked by plentiful rivers and farmlands. Archaeological evidence indicates human settlement across all continents, except Antarctica and some Pacific islands, as early as 70,000 years ago. Richard Alexander's analysis[1] suggests that this swift expansion necessitated evolutionary adaptations, incorporating complex social tools[2]. Each environment posed unique challenges, leading to the evolution of diverse psychological strategies for survival, highlighting the pivotal role of social learning in human adaptation. This suggests that understanding how humankind has reached its current status is closely related to the progress of the Anthropocene[4]. Much of the cultural progress, along with biological selection, has a compounding effect on our being, selectively paving the way for certain cognitive and cultural traits and biases to survive. After all, any abstract thinking, thereby philosophy, one engages with remains rooted under the hemisphere of this progress.

Philosophical inquiry into perception critically examines the foundations and mechanisms underlying our sensory experiences. Does our perceptual knowledge stem from recollection, as Plato posited, suggesting that learning is merely the retrieval of pre-existing knowledge? Or, as John Locke contended, do we start as tabulae rasae, with knowledge acquired through

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[4]The term "Anthropocene" is used to describe the current geological age, viewed as the period during which human activity has been the dominant influence on climate and the environment.

life experiences? The evolution of these theories continues to shape views towards either philosophical skepticism or dogmatism among the wider population. Nonetheless, the intrinsic value of philosophy might primarily reside in the questions it prompts rather than the answers it provides. While answers may converge towards a singular solution, questions open up endless possibilities. In this light, questions and answers are *diagenius*[5], both essential within their existence. Thus, neither is inherently superior to the other; their value lies in their operational utility.

There is a notable correlation between the proliferation of questions within a society and the resulting utility—be it through innovative technologies, the discovery of *a priori* truths in mathematics and physics, or cultural enrichment through literature. However, when a society accumulates an excess of unanswered questions, it may lead to atypical developments as these queries stagnate, endlessly compounding upon themselves without resolution. Societal isolation can also exacerbate in a different aspect, where minimal interaction with other cultures or communities may lead to a complacent acceptance of existing knowledge without the stimulus of new examination. Historical instances, such as the stagnation periods in the Medieval Ages or the dynamic bursts of innovation during the Renaissance, illustrate how the balance or imbalance of questions and answers can profoundly impact the momentum. Moreover, civilizations that have easy access to trade routes often develop a deeper understanding and greater capacity for innovation. This accessibility facilitates the compounding of interactions and knowledge exchanged. Trade not only brings in goods but also ideas, philosophies, and technologies from diverse cultures, enriching a society's intellectual and cultural landscape. The flow of information and resources across these routes can accelerate the possibility of technological advancements and the cross-pollination of ideas, leading to periods of rapid development and cultural flourishing. Historically, civilizations like those exemplify how trade can be a powerful catalyst for intellectual growth and economic prosperity.

To clarify, I posit that increased interaction between civilizations and communities nurtures phenomenological, theological, rational, and empirical insights. Such a confluence of ideas generates more questions and catalyzes social change. In these circumstances, questions framed around "why" enhance integral thinking and foster answers derived from existing knowledge. Conversely, "how" questions guide differential conduits of knowledge, leading to new innovations and a relational understanding, as they offer a comparative method of inquiry. Let Q represent the number of questions and A represent the number of answers, the ratio R as:

$$R = \frac{Q}{A}$$

To integrate empirical data with rational theoretical insights, refine R to operate within defined limits:

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[5]The term *dia-genius* combines 'dia' (Greek for 'through' or 'between', similar to 'dialectic') with 'genius' (indicating creation or the emergence into existence), reflecting a dual compulsory existence.

$$\begin{cases} R > R_{\max} & \implies \text{Excessive questioning leading to potential innovation stagnation} \\ R < R_{\min} & \implies \text{Insufficient questioning, risk of intellectual complacency} \\ R_{\min} \leq R \leq R_{\max} & \implies \text{Balanced inquiry conducive to stable development} \end{cases}$$

While some questions undoubtedly have greater potential to generate new insights or utilities, the quantitative measurement of R may initially appear imprecise. However, with a sufficiently extended timeframe, statistical distributions of questions and answers can reveal patterns and tendencies towards equilibrium between them. As such, allowing time to elapse up to a threshold level of interaction, denoted as I, considering a loss probability function based on varying degrees of engagement with different civilizations and the quality of their impacts, can elucidate these dynamics. Define I formally as:

$$I = \int_0^T e^{-\lambda t}(c \cdot DV(t))\, dt$$

T is the observation period, λ is the decay rate representing loss of relevance over time, c is a scaling constant, and $DV(t)$ represents the differential variance in the quality and quantity of interactions over time. The term $e^{-\lambda t}$ ensures that more recent interactions have a greater impact than older ones. $DV(t)$: This function represents the varying quality and quantity of interactions over time. At each point in time t, $DV(t)$ gives the value of these interactions. This model aims to provide a more nuanced understanding of how diversified engagements influence the evolution of R.

It appears that we systematize information gathered from external sources, transforming it into new insights within the framework of our existing assumptions and cognitive tools. If our evolutionary adaptations have indeed hardwired into us an axiomatic awareness akin to signal processing, then it seems our cognitive orientation prioritizes coherence over absolute truth. In this context, the focus of our belief system transitions from questioning 'why' to comprehending 'how.' This shift indicates that our primary adaptive mechanism is not the pursuit of objective truth but rather the exploration and interpretation of sensory inputs, through which we construct our understanding of the world.

In addition to the speculative nature of my thesis, philosophy often grapples with the burdens of historicism, with metaphysics posing the fundamental question: "*Why is there something instead of nothing?*"[6]. Such questions have often laid problematic foundations for multiple streams of reasoning. In this work, I aim to explore the origins of these philosophical phenomena. This investigation necessitates a historical dialectical method to understand not just the philosophical underpinnings but also the progression and implications of such foundational inquiries. Henceforth, I will introduce a niche theory "Differentialism" to supersede modes of thinking and philosophical approach.

There it goes the theory of differentialism: a philosophy is not merely about survival, which has involved in a passive reconciliation with the fear of the unknown by seeking the most obvious answers. Rather, it is about reevaluation of what is known and creating what is needed to be known.

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[6]Heidegger, Martin. *Introduction to Metaphysics.* Yale University Press, 2000.

1.1 Modality of Historicism and Philosophical Progress

Philosophy is a discipline that employs specific methods seeking answers to question. It is believed that humankind possesses an intuitive ability to observe, analyze, imagine, reason, and conclude. These special skills have been pivotal in altering the course of Earth's history, affecting both our internal and external interactions. This profound bio-social adaptation has led to an accumulation of "knowing," regardless of how allegorical or erroneous these understandings might be. Consequently, it is vital to differentiate levels of knowledge, especially considering that the history of human understanding remains largely obscure before the advent of writing, causing obscurity understanding cultur and cognitive evolution of humankind.

Before the invention of the cuneiform script around 3300 BCE, our understanding of the Earth relied heavily on oral traditions. During much of human history, knowledge was transmitted through folklore, myths, and poetry, which played essential roles in educating people about morality, meaning of things, knowledge, and even politics[7]. Oral traditions were the primary means of cultural wisdom where generations adhere solutions and answers through epic stories. Regardless they were not merely tales; they were sophisticated systems of knowledge that encapsulated the values, beliefs, and practical know-how of ancient societies. Nevertheless, Finley [8] discusses that these oral narratives did not transmit mythical past but also created it as well.

The transition from oral to written traditions marked a significant turning point in the history of knowledge. The development of writing systems allowed for more precise and enduring records of human thought and activity. However, even as written records began to proliferate, the influence of oral traditions persisted, shaping the content and form of early literature and philosophical texts. The interplay between oral and written traditions highlights the complex processes through which knowledge is accumulated and transmitted across generations.

Understanding this historicism of philosophical progress requires an appreciation of how early forms of knowledge transmission laid the groundwork for more systematic and analytical approaches to philosophy today employed. The early philosophical inquiries were deeply intertwined with the cultural and social contexts from which they emerged. This perspective reveals that our way of understanding philosophy is profoundly rooted in oral traditions, which have shaped the nature of our inquiries and the methodologies. These traditions encapsulate their own "social and cultural adaptation," influencing not only the questions we ask but also how we seek answers. To understand such phenomena, I will ankle to the history of philosophy in the next section.

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[7]Finley, M. I. (1965). *Myth, Memory, and History*, p. 284.

[8]Finley, M. I. (1965).*Myth, Memory, and History, p. 295.*

1.2 Market Place for Ideas

Thales of Miletus, often regarded as the first natural philosopher[9], is celebrated for eschewing mythological explanations of the world[3]. Yet, his philosophical endeavors reveal a deep engagement with Near-Eastern thought, such as the Egyptian mythological accounts of water[10] and Babylonian cosmological records[11], besides embracing elements of Homerian[12] and Orphic traditions[4]. These influences highlight a syncretic approach of understanding nature. Furthermore, integrating diverse mythological traditions into early Greek philosophy also underscores the quasi-rationalistic tendencies emerging during this period.

Ancient Greek philosophy also imbued philosophical discourse with a narrative depth that explored existential and metaphysical questions through the ascendancy of myths. While the allegorical use of myths by philosophers like Plato was intended to illuminate complex ideas, such as Allegory of the Cave and Process of Recollection[13], it may also have circumscribed the range of inquiry to the contours of these ancient narratives.

Theories and cultural practices have profoundly influenced neighboring societies throughout history. From the pre-Socratic philosophers to the Middle Ages, the Eastern Mediterranean, also known as the Levant, served as a pivotal hub for trade and intellectual exchange. This region, bustling with traders and mercenaries, facilitated not only the exchange of commodities but also the spread of philosophical ideas and cultural innovations[5]. The geographical features of the Levant, including natural harbors, diverse landscapes that provided a variety of goods, and numerous islands facilitating safer navigation, made it an ideal location for vibrant trade and dialogue.

The Levant's access to the sea opened it up to influences from far-flung regions of the ancient world. This connectivity meant that the Levant was often one of the first regions to encounter new philosophies and innovations, which were then absorbed, adapted, or sometimes rejected based on the existing cultural and philosophical frameworks within the region. Furthermore, the variety of landscapes within the Levant, from mountains to deserts to fertile plains, contributed to a diverse set of living conditions and societal needs, which in turn influenced local practices and the adoption of external ideas. Moreover, the existence of numerous safe harbors and the ease of navigation among the islands promoted frequent maritime contacts, enhancing the region's role as a cultural intermediary. This geographical advantage not only sustained the local economies through trade but also ensured a continuous dialogue between different cultural entities. Each interaction brought opportunities for intellectual exchange, leading to a synthesis of ideas that could be seen as a form of cultural evolution, shaped by the forces of geographical determinism. Thus, the Levant's geography played a crucial role

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[9]*Natural philosophers, also known as early scientists, were thinkers in ancient times who sought to explain natural phenomena through observation and reason rather than mythology or religion.*

[10]See G.S. Kirk and J.E. Raven, *The Presocratic Philosophers*, Cambridge University Press, 1984, p. 70.

[11]See G.S. Kirk and J.E. Raven, *The Presocratic Philosophers*, Cambridge University Press, 1984, p. 97.

[12]Aristotle, *Metaphysics* A 3, 983b27.

[13]Peter Kingsley, *Ancient Philosophy, Mystery, and Magic: Empedocles and Pythagorean Tradition*, Oxford University Press, 1995.

in its historical destiny as a center of cultural and intellectual ferment, which exemplifies how geography can shape cultural and intellectual development.

In contrast, civilizations such as China were shaped by vastly different geographical and cultural conditions that influenced their intellectual landscapes. The largely landlocked nature of China, with its formidable natural barriers such as the Himalayas to the south, the Gobi Desert to the north, and vast distances separating it from Europe and Africa, meant that its interactions with distant civilizations were limited compared to maritime-centric cultures like those in the Levant.[14]

While the Silk Road was a significant overland trade route that connected China with the Levant and Europe, it did not facilitate the same level of dynamic, efficient continuous cultural exchange as maritime routes.[15] The Silk Road was perilous, traversed by caravans subject to the harsh realities of desert travel, making frequent and robust exchange less feasible. Consequently, although the Silk Road did introduce new ideas, religions, and technologies into China, such as Buddhism from India, these influences arrived intermittently and took longer to assimilate, often filtered through the lens of existing Chinese cultural and philosophical frameworks, in isolation[16]

Moreover, China's relative detachment fostered a cultural and intellectual environment which was considerably more homogeneous. Chinese civilization was highly centralized, particularly under the strong dynasties, which further shaped its intellectual traditions, reinforcing a consistent cultural and ideological framework across vast territories in the mainland China.[17]

As a result of these factors, China's development was a process of a long periods of cultural continuity and stability, pointing by intervals of change often by internal dynamics than by external influences. This contrasts with the Levant's experience, where geography facilitated a continuous exchange of ideas, leading to frequent shifts in cultural and intellectual paradigms and emergence.[18].

Consequently, it becomes clear that any theoretical framework is deeply intertwined with the marketplace of ideas—a space where the attributes of theories are continuously refined and developed through interaction and exchange. This dynamic interplay ensures that theories are not static but are constantly evolving, shaped by the relative differences arising from their engagement with specific contexts, such as geography. This relative difference is what I term the "differentialism of social adaptation" in response to change[19].

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[14]Fairbank, John King. *China: A New History.* Harvard University Press, 1992, p. 36.

[15]Waugh, Daniel C. *Richthofen's "Silk Roads": Toward the Archaeology of a Concept.* The Silk Road, 2007, p. 5.

[16]Bentley, Jerry H. *Old World Encounters: Cross-Cultural Contacts and Exchanges in Pre-Modern Times.* Oxford University Press, 1993, p. 76.

[17]Elman, Benjamin A. *A Cultural History of Civil Examinations in Late Imperial China.* University of California Press, 2000, p. 88.

[18]Lewis, Mark Edward. *China's Cosmopolitan Empire: The Tang Dynasty.* Harvard University Press, 2009, p. 210.

[19]In Chapter 2, *please see Hyper-Objective 2*, the Theory of Differentialism is explained.

The process of this interaction extended through time and region in Levant until medieval period. For example, the spread of ideas was greatly enhanced by the presence of key cities such as Athens, Alexandria, and later Constantinople, which were centers of learning and intellectual activity. Philosophers, scholars, and traders gathered in these cities, creating a vibrant locale for exchanging knowledge and theorizing crossbreed ideas. As a result, philosophy found fertile ground in the Levant, influencing local cultures and being shaped by them in return.

Moreover, the translation movements, particularly during the Islamic Golden Age, were crucial in preserving and transmitting Greek philosophical texts. Scholars in the House of Wisdom in Baghdad translated works from Greek into Arabic, often adding their own commentaries and thoughts, and thus enriching the original material[6]. These translations later made their way to Europe during the Renaissance, where they contributed significantly to the revival of classical knowledge, new ways of thinking, leading more integration of ideas.

Despite the early philosophical theories being influenced by mythological traditions and other cultural elements, in the contemporary world, we perceive our understanding of philosophy—characterized by critical thinking, rationalism, questioning, and theory design as profoundly distinct from such allegorical misconceptions. However, while these modern interpretations posses certain level of truth, the metaphysical foundations laid down in Antiquity continue to anchor us[20] to a similar mythos from which these philosophies originally emerged by. This implies that even our contemporary, supposedly rational, and empirical theories may not be entirely free from the shadows of mythical narratives. I call this anchored association of "knowing" as accumulative knowledge(please see 2.1).

This realization goes beyond a mere scholarly engagement with the past; it profoundly impacts our current approach to philosophical inquiries, suggesting that genuinely advancing philosophical thought might necessitate a more radical departure from the ancient roots than previously acknowledged. Failing to do so risks perpetuating outdated metaphysical concepts of foundationalism. Traditional metaphysical frameworks, often constrain contemporary philosophical exploration by anchoring it to obsolete paradigms.

I propose that integrating dynamic-essential principles within the framework of the Theory of Differentialism can eliminate allegorical distortions of knowledge. The Theory of Differentialism, by emphasizing the variability and context-dependence of knowledge, provides a more adaptable and robust foundation for philosophical inquiry. This approach encourages a shift from static, universal principles to more fluid, situational understandings that reflect the complexities of modern life. Moreover, this innovative framework can broaden the scope of philosophy, offering a pragmatic path for scientific and cultural progression. By moving beyond rigid, archaic constructs, the Theory of Differentialism fosters interdisciplinary collaboration and intellectual flexibility. It aligns philosophical pursuits more closely with contemporary scientific methodologies, thereby enhancing their relevance and applicability.

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[20]"modern philosophy is a footnote to Ancient," Whitehead, A.N. "Process and Reality."

1.3   Downfall of Idols

In 1.1 and 1.2, I provided a historical context for philosophical progress to challenge the assumptions underlying the interactive progress of history. Traditional understandings of philosophical progress, and their methodological interplay, are inevitably shaped by selection biases, such as the Casanova principle. This principle highlights our tendency to focus only on successful outcomes or visible examples while neglecting those that fail or remain hidden, thus skewing our understanding and perpetuating an incomplete narrative of historical progress. This bias complicates our perception of the complexities and multifaceted nature of historical development. Furthermore, I find it problematic when principles, acknowledgments, and actions are in conflict, particularly when ethics is relegated to an abstract and subjective theoretical playground, leading to mass conformity of stagnation, or complete absence of balance. This situation illustrates why philosophy has often become an academic exercise rather than a practical extension of cognitive understanding and action.

The complexities of defining "good" via formal logic become clearer when examining the constructs of P and $\neg P$. In Piaget's developmental framework, understanding through negation is not merely a linguistic contrast but a cognitive developmental milestone, typically achieved in the concrete operational stage, beginning around age seven. This cognitive ability enables individuals to categorize and differentiate concepts not only by what they include but also by what they exclude.

In formal logic, the set P represents a collection of positive attributes commonly associated with "good," such as being nice, empathetic, trustworthy, socially approved, and so on. The negation of P, denoted as $\neg P$, comprises all elements of P. This representation is crucial for understanding the limitations of defining "good" merely by its positive assertions:

$$P = \{\text{nice}, \text{empathetic}, \text{trustworthy}, \text{socially approved}\}$$
$$\neg P = \{x \mid x \notin P\}$$

$$\forall P(\forall x\,(P(x) \to x \in P) \to \exists y\,(y \notin P))$$

This logical formula states that if all attributes of P are true for any individual x, it necessarily follows that there exists at least one individual y for whom these attributes do not hold, placing y within $\neg P$. This suggests an inherent limitation in using a defined set of attributes to encapsulate a concept as broad and variably interpreted as "good."

The significance of this logical approach is that it highlights the intrinsic problem with trying to define expansive concepts through finite sets of attributes. Just as Piaget's theory implies, the definition of concepts expands and refines as cognitive development progresses. In the context of "good," even a comprehensive set of positive attributes (i.e., P) cannot encapsulate all possible good actions or qualities, as societal norms and personal perceptions of what is considered "good" are in constant flux and subject to cultural and individual interpretation. Consequently, any attempt to define "good" solely through P will inevitably

fail to cover all instances universally recognized or personally perceived as "good".

Moreover, consider the challenge in defining the term "good" through an individual's traits. An individual might exhibit behaviors typically associated with goodness—helpfulness, empathy, kindness—but also possess negative characteristics such as greed and egotism. If their positive actions predominate, we might still categorize them as "good" person. This introduces a philosophical dilemma: the person is recognized as good (P), even though they possess traits that do not align with this categorization ($\neg P$). For example, the set of characteristics defining such an individual could be represented as follows:

$$P = \{\text{nice}, \text{empathetic}, \text{trustworthy}, \text{listens French79}, \text{egotistic}, \text{greedy}, \ldots\}$$

This set offers a profound insight: characteristics such as "greed" or "personal taste in music" do not inherently define "goodness." Instead, they highlight the complex and often paradoxical nature of human behavior. Thus, when formulating a semantic definition of "good" person, we face the challenge of integrating attributes that may directly conflict (e.g., "kind" vs. "rude") or conjugates (e.g. being greedy while being good person), leading to semantic and logical inconsistencies. It is crucial to acknowledge criticism here such that excluding negative traits such as "greed" from the definition of "goodness". However, this could lead to an oversimplification of the nuanced and dynamic contexts in which moral judgments occur—akin to Plato's creation of a metaphysical, formal ethical theory that exists somewhat detached from practical realities and in isolation. There are inherently contradictory elements within the concept of "good," and it is possible for a person recognized as good to exhibit these contradictions. While this poses a dilemma for the social definitions of a "good person," it is essential to recognize that when there is a discrepancy between action (pragmatics) and the definition of action (semantics), one of them must be incorrect. To put it plainly, if a tree is claimed to be an apple tree but bears oranges, it is either not an apple tree, or the fruits are not oranges.

Consider an example involving the perception of colors. When defining colors, beyond their qualia, we can describe them in terms of electromagnetic radiation—specific wavelengths and frequencies within the spectrum. Each color's unique characteristics can be associated with different symbolic representations in language. For instance, what we commonly refer to as "red" corresponds to wavelengths around 400 nm and a frequency of approximately 430 terahertz. Furthermore, these physical properties of light waves can be digitally encoded, as exemplified by the RGB (red-green-blue) color model, which represents pure red as (255,0,0). Defining the precise color red in objective terms proves challenging. Merely specifying its RGB value as (255,0,0) fails to encompass variations of red, such as (254,0,0), which are nearly indistinguishable to the human eye. If we assert that there is no perceptible difference between (255,0,0) and (254,0,0), the same logic could apply progressively to (253,0,0), and so forth. This raises the question: At what point does a shade cease to be considered "red"? This example highlights the difficulties in firmly pinning down the boundaries of color perception within the constraints of objective measurements. This is also to say that the color red occurs where it is not (0,0,0), (0,0,1), ... ,(0,1,0), ... , (0, 255, 255). Since defining X_{red} as (x_i, x_y, x_z) would lead to uncertainty about what X_{red} is not, as it could be anything

but any defined elements for x, I conclude that any definition is only a consensus method, if its complete list of negations cannot be provided.

In discussing the logical structuring of categories, if we cannot deduce a category's definition such that its negation is marked by distinctly contrasting attributes, then it is not a matter of negation but rather one of relevance. To have a meaningful category within a logical framework, its negation should be identifiable through attributes that are in direct contrast to those defining the category itself. If we are unable to outline these contrasting attributes, then the concept of negation becomes inapplicable. Instead, we are confronted with dimensions of relevance or relatedness, shifting the discourse from strict semantics to more relational or contextual interpretations.

This idea is mirrored in Karl Popper's principle of falsifiability, which stipulates that a theory should clearly specify not only what it asserts but also what it refutes. Popper's insistence on falsifiability, as outlined in his works *The Logic of Scientific Discovery* and *Conjectures and Refutations*[7][8], reinforces the necessity for theories to be structured in a way that their negations are as definitive as their assertions. This requirement enhances the robustness and empirical integrity of theoretical frameworks, ensuring that they are not merely affirmations but are capable of being contested and potentially disproved. This alignment between the logical foundations of category definition and the principles of scientific inquiry underscores the importance of clear and oppositional definitions in the establishment of meaningful and testable categories.

The meanings of words are not static; they evolve over time, influenced by shifts in their associated attributes and our interactions with the world, a concept discussed earlier in terms of the adaptability of human social skills through cortical evolution[9]. Although evolution is typically viewed through a genetic lens, it often neglects the emergent cognitive layers that profoundly shape our perceptions and interactions. These cognitive dimensions will be explored further in Chapter 2. However, the reliance on fixed categories to achieve consensus and apply scientific methodology or ethical standards often falls short. This limitation is highlighted in our attempts to define "good" through its negation, where the absence of direct, contrasting attributes results in definitions that rely on societal connotations—such as being nice or trustworthy—rather than clear oppositions. To navigate these dilemmas, we frequently resort to approximating the meanings of words to forge a consensus, as evidenced in the earlier discussion of "good". While these approximations offer practical solutions within social contexts, they inevitably embody contradictions, reflecting the complex interplay between language evolution and societal dynamics.

Given the intricacies of defining concepts such as "good," which often rely on societal connotations rather than direct oppositions, it becomes apparent that our traditional approaches to philosophical inquiry might not suffice in the face of evolving societal and cognitive landscapes. This realization brings us to a critical juncture, suggesting a need for a shift in how we approach philosophical discourse. For all these reasons, a nova satus[21] in philosophy is

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[21]a new beginning

essential. Early philosophers and traditional scholars of thought have significantly shaped the process of philosophical inquiry (see1.11.2). Yet, it is the lack of timely, prominent critiques that often leads to entrenched circular debates. These debates persist across various disciplines, including philosophy, physiology, and mathematics.

You hold the nails, I bring the hammer

Friedrich Nietzsche, a prominent critic of traditional metaphysics, argued for the necessity of overcoming past philosophical paradigms. Nietzsche's concept of the "Übermensch" embodies the idea of transcending established norms and creating new values beyond the shadows of ancient mythos. Nietzsche, too, saw traditional metaphysics, with its roots in Greek philosophy, as a form of nihilism that negates life and the world as it is. He posited that the only way to truly advance philosophical thought is to embrace the "will to power,"[10] an idea that encourages the creation of new, life-affirming values and perspectives. In his work Thus Spoke Zarathustra,[11] Nietzsche challenges the existing metaphysical frameworks and calls for a revaluation of all values, advocating for a philosophical transformation that breaks free from the constraints of ancient influences. He believed that this process of overcoming is essential for humanity to achieve its full potential and move beyond the limitations imposed by historical philosophical doctrines.

By acknowledging the influence of ancient traditions on contemporary philosophy, we must critically examine whether our modern theories are indeed as rational and empirical as we believe, or if they still harbor remnants of the mythical narratives from which they originated. This critical examination may lead us toward a more innovative and liberated approach to understanding and engaging with the world. Engaging in such an inquiry challenges us to dissect the layers of historical context that have shaped our current paradigms, prompting us to question the validity of what we often accept as the "norm." Furthermore, this scrutiny can reveal how ancient metaphysical questions and mythological motifs subtly inform modern philosophical discourse, suggesting that our progress might be constrained not merely by the limits of our understanding but also by our adherence to outdated models. By confronting these underlying narratives, philosophy can transcend mere academic debate and become a transformative discipline that not only interprets the world but also actively participates in shaping a future informed by a deeper, more nuanced grasp of its historical roots. This process of reflection and innovation is essential for a discipline that aims to contribute meaningfully to the challenges of the contemporary world, offering insights that are both profound and applicable to the ever-evolving human condition.

Chapter 2

Hyper-Objective

"It is not what you look at that matters, it is what you see."
Henry David Thoreau

Unbeknownst to me during the writing of my thesis, Timothy Morton had already published a book titled "Hyperobjects" [12]. By coincidence, I named this section "Hyper-Objective," not realizing his extensive exploration of the topic. Although there are some conceptual overlaps, the usage of "Hyper-Objective" here serves a distinct purpose. The term hyper-objective, in this thesis, establishes ontic framework for Theory of Differentialism both in epistemology and ethics.

In Chapter 1, I provided a detailed account of how contemporary theories might still be influenced by quasi-mythological traditions, using historical examples for clarification. While initially steering clear of applying the principles of Differentialism too broadly in the analysis, this chapter will delve deeper into the theory and explore potential resolutions.

2.1 Accumulative Knowledge

We defined accumulative knowledge (please see 1.2) as an anchoring effect from the past, principally stemming from early writings that have perpetuated certain characteristics through historicism and philosophical progress. While contemporary debates tend to be more analytical and pragmatic, their understanding is deeply influenced by these temporal contexts. This suggests that any phenomenological emergence of understanding is shaped through the dynamic marketplace of ideas (see 1.2). However, it is important to recognize that this is an observational exploration, rather than a proclamation of differentialism as a definitive theory.

The reductionist evaluation of contemporary phenomena, by focusing solely on specific concepts and methods, fails to adequately explain the complexities of modern understanding. Such approaches typically offer only an evaluative perspective that favors preferential thinking. Therefore, I urge readers, particularly those who might lean towards such a conceptual foundation, to consider the broader implications of this theory. Formal logic and calculus, for instance, allow us to articulate relational and derivative insights that can enhance our understanding. This discussion highlights the inherent complexity when debating the ontology

of the present. It is imprudent to rely on narrowly scoped methods to address such expansive and intricate issues. Although I argue that understanding the continuum of patternalization is feasible, and can clarify the "how" as previously discussed, we must acknowledge the challenges posed by such complexities.

Martin Heidegger's magnum opus, *Being and Time*, proposes a theory of Dasein[1] in which he discusses how the implicit influence of the past continues to shape our behavior and thinking. He introduces the concept of "throwness"[2], a fundamental aspect of our being that links us to historical causality. This concept underscores the inevitable connection between our present existence and the historical contexts that have preceded us. Heidegger emphasizes that our decisions and perceptions are not solely our own but are heavily influenced by the historical 'thrownness' into our specific world. This linkage manifests not just in individual experiences but also permeates the collective ethos and actions of societies. textitBeing and Time further elaborates on the notion of 'being-towards-death,' a personal and existential awareness that each individual must confront. This awareness shapes our understanding of time—not as a mere chronological progression but as a dynamic interplay between past, present, and future, continually influencing one another. It is through this temporal dynamic that Dasein experiences the world and its own potential for authenticity.

However, this approach lacks direct observational analysis of throwness, a gap that Chaos Theory[13] helps to bridge. Chaos Theory, as explored by James Gleick, examines how systems develop over time through non-linear processes starting from small changes. Edward Lorenz, a meteorologist, famously demonstrated the sensitive dependence on initial conditions, commonly known as the "butterfly effect," within deterministic systems. His experiments with weather model simulations showed that rounding numbers to a slightly different decimal point led to dramatically divergent weather patterns. This sensitive dependence on initial conditions mirrors Heidegger's notion of "throwness" where the circumstances of our historical and existential starting points shape our life trajectories in profound and often unpredictable ways. Chaos Theory provides a quantitative framework to understand this variability, suggesting that small variations in a person's historical context can lead to significant differences in their understanding and behavior. By applying the principles of Chaos Theory to Heidegger's philosophical inquiries, we gain a more dynamic understanding of human existence, reinforcing the view that our lives are interwoven with both deterministic and unpredictable elements.

This insight into chaos theory illustrates the significant challenges in predicting and scaling universal principles non-linearly, which is particularly relevant to our understanding of cognitive evolutionary adaptation. Although seemingly predictable over short timescales, evolutionary processes are deeply influenced by chaotic dynamics over longer periods. To illustrate this, consider the differential equation that models the change in a biological trait over time, where $x(t)$ represents the trait's expression at time t, and c is the cost associated

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[1]Martin Heidegger, *Being and Time*: A commentary theory emphasizing the implicit influence of the past in shaping contemporary behavior and thinking.

[2]Heidegger's concept of "throwness" (*Geworfenheit*) describes how individuals are inherently placed into a pre-existing world, shaping their existence and understanding.

with maintaining this trait:

$$\frac{dx}{dt} = f(x(t), t) - c \cdot x(t)$$

$f(x(t), t)$ represents the fitness advantage of the characteristic at time t, and the term $c \cdot x(t)$ represents the cost of maintaining this characteristic over time.

Our enhanced model incorporates non-linear feedback and stochastic elements to more accurately mirror the complexities of natural systems:

$$\frac{dx}{dt} = rx(t)\left(1 - \frac{x(t)}{K}\right) - c \cdot x(t)^2 + \sigma\xi(t)$$

where r is the intrinsic growth rate, K is the carrying capacity, c represents the non-linear cost factor, and σ and $\xi(t)$ represent the intensity and the stochastic nature of environmental variability, respectively. For graphics see appendix .2

Dynamic systems, as characterized by chaos theory, differ fundamentally from linear systems due to their significant sensitivity to variations in initial conditions, that can lead to exponentially divergent outcomes. Consequently, it becomes exceedingly challenging to make accurate predictions or retrodictions about future or past events, respectively. This principle underlies the behavior of macroscopic phenomena. In contrast, linear systems rely on axiomatic models that allow for straightforward predictions and reverse calculations. For example, if in a linear system at time t_2 the variable x equals 8, it is straightforward to deduce the value of x at t_1, or vice versa.

Intuitively, our perception is shaped by a modeling approach that employs linear reasoning, whereby our perceptual framework selectively assimilates adaptive information[3]. For instance, when we observe an apple characterized by its red color, round shape, and smooth texture, we perceive these attributes—color, shape, and texture—as a single coherent object. Moreover, these visual distinctions are integrated through a selective adaptation mechanism[4].I hypothesize, therefore, that such a selective process is crucial as it enables the differentiation between edible and poisonous foods.

In visual biology, Francis Crick suggested that higher visual areas are crucial to the conscious experience of visual-input. His theory, developed with Christof Koch, emphasizes the roles of regions such as V4 and the inferotemporal cortex in the processing and interpretation of complex visual stimuli, facilitating their accessibility to conscious awareness. The implications of this theory are extensive, particularly in understanding the architecture of visual perception, which I will delve into more deeply in Section 2.3. For the present discussion, it is important to note that this framework highlights the critical role of inductive reasoning. This process involves deriving general principles from specific observations, a method

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[3]Adaptive information here refers to the traits or cues that have evolved to be selectively perceived due to their survival value in our ancestral environments.

[4]Selective adaptation refers to the process where sensory receptors and neural mechanisms adjust to filter and focus on information most vital to survival and decision-making.

essential for developing adaptive strategies. In this context, qualia are not only experienced as sensory interpretations but are also justified and objectified in terms of goal achievements.

Consider Bertrand Russell's example of a table, which seems to vary in appearance under different environmental conditions[5]. Despite these changes, such as the table appears slightly darker at dawn, we rarely question its consistency of being the same table. This acceptance stems from our perceptual faculties processing these variations in a manner that, if the differential deviation is less than a predetermined threshold, it is considered negligible. Since deductive reasoning requires more cognitive effort compared to inductive reasoning, our cognitive acceptance of such perceptual changes is based on the effectiveness of the perception relative to its cognitive cost. In other words, small changes do not arouse an awareness due to their insignificant impact on cost-awareness as long as they are infinitesimal.

To elucidate further, let us consider the phalakros paradox[6]. It might seem straightforward to classify someone as bald, yet this classification becomes problematic upon closer scrutiny. For instance, consider a person with 50,000 hairs. Most would agree this person is not bald. But what if we remove just one hair? Clearly, losing a single hair does not lead to baldness. The same holds true for the subsequent loss of another hair, and another. While repeatedly asking this seems absurd, it illustrates a critical point: no single hair's removal makes someone bald. Rather, baldness emerges from a cumulative effect that exceeds our threshold of perception differential to time, illustrating a shift in relational differentiation rather than isolated changes.

Imagine observing a person who lost 10,000 hairs between times t_1 and t_2. If this time interval is notably short, the substantial decrease in hair quantity might lead us to conclude that the person has become bald, illustrating that baldness is a derivative concept. This notion relies on a mental model—a defined threshold of hairlessness—that influences our cognition. Moreover, if one's experience is predominantly with individuals who have sparse hair but are not entirely hairless, this would recalibrate our mental benchmark for baldness. Such an adjustment shifts our perception of what constitutes significant hair loss, based on this new standard. Hence, the concept of being "bald" is not an inherent property of an individual but rather a relative differentiation in semantics over time. This observation highlights that our descriptions of what we perceive are influenced by two main factors: the semantics of relevance, which dictates how we understand $Word_x$ in contrast to $\neg Word_x$, and differentialism, which assesses how noticeable and rapid the change is relative to the observed time span.

Thus, it becomes evident why induction is a norm in our daily actions and thought processes. Inductive thinking allows humans to form conclusions based on a set of criteria, providing a safeguard against potential dangers in a changing environment. Consider a scenario where

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[5]Bertrand Russell uses the example of a table in his discussions on the nature of reality and perception, illustrating how ordinary objects can appear different under varying conditions, yet we accept these variations without skepticism.

[6]The phalakros paradox, akin to the sorites paradox, challenges the concept of when a person becomes bald as hairs are progressively lost, illustrating the problem of vague predicates.

a group of people witnesses one of their members being killed by a wolf. The group should naturally infer that wolves are dangerous. However, imagine that later on, another member encounters a wolf that looks slightly different. They might erroneously conclude, "This wolf does not look exactly like the one that killed our friend; therefore, it is not the same in which it is not necessarily dangerous." This potentially fatal mistake underscores the challenges of applying inductive reasoning when only minor perceptual differences are present. Another example involves a group of people sitting around a fire. If one person burns their hand while trying to touch the fire and fails to generalize from this experience, they might not understand that all fires, regardless of size or context, can cause burns. This inability to generalize could lead to repeated harmful encounters with fire under varying circumstances. These examples illustrate why inductive reasoning is foundational in human cognition; it acts as a form of selective adaptation, enabling us to make quick generalizations that usually serve our survival but can sometimes lead to erroneous conclusions. Such reasoning is crucial because it allows for the application of learned experiences to new but similar situations, enhancing our ability to navigate and respond to the complexities of the world effectively.

Nevertheless, induction has been scrutinized by philosophers: David Hume's critique of induction, for instance, underscores the precarious reliance on past events to predict future occurrences, pointing out that just because something has happened in a particular way before does not ensure its repetition[7]. Although Hume's critique may appear intuitively comprehensible, eschewing inductive reasoning contradicts our natural approach to the world. Despite what might be deemed our epistemic arrogance[8], and heavy reliance on pattern recognition, this behavior should not be dismissed as maladaptive. Particularly in the Anthropocene, the need for adaptive strategies, such as inductive reasoning, is paramount, as rapid environmental and societal changes necessitate the employment of inductive rationalization to survive.

Accumulated knowledge, which resonates with inductive principles, should be considered not as an absolute truth, but rather as a set of probable advantageous responses shaped by spatio-temporal conditions, henceforth. In essence, our philosophical connotations, perceptual cognition, and action processes derive their relevance not from an intrinsic truth, but from their alignment with specific temporal and environmental contexts. This approach emphasizes the "how" of knowledge application rather than the "why" of its foundational truth. If we extend this argument to other contexts, such as historicism, we also find its inherit post-factual nature. That is to say historical knowledge is contingent upon what has survived through various adversities rather than a comprehensive account of the past. Formally, this can be expressed as follows:

Let S represent a statement of historical knowledge. S is contingent upon C, where C denotes the conditions that allowed S to survive. The implication here is $C \rightarrow S$ (if condition C holds, then S is considered known). However, the converse, $S \rightarrow C$, is not necessarily

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[7]David Hume, *An Enquiry Concerning Human Understanding*, (London: 1748).

[8]See *The Black Swan*, Nassim Nicholas Taleb, for a discussion on the impact of highly improbable events and our cognitive biases towards pattern recognition.

true, illustrating the post-factual nature of historicism. The truth of S is thus conditional and not absolute.

Regarding the unknown, consider U to represent unknown knowledge within the universe E. If t is a part of E that is known, then $E - t$ represents the unknown (U), implying $U = E - t$. This relationship highlights that the scope of the unknown (U) is inherently beyond the current realm of knowledge (t). Therefore, U cannot be explicitly known because its definition depends on the limitation of t, which is a topic I will be discussing in 2.2.

As previously mentioned in section 1.2, our knowledge of Levantine culture and early Greek philosophy is significantly shaped by what was documented and preserved. The destruction of many documents and archives during invasions, such as those by Genghis Khan, has led to a lack of understanding regarding how these lost informations might have otherwise influenced contemporary contexts. This underscores the conditional nature of historical knowledge and its dependence on survival through adverse conditions.

In the framework of differentialism, which my thesis adopts, accumulated knowledge is treated as a practical tool, effective as long as the deviation from expected outcomes remains less than the adaptive value we inherit. Formally, if Δv represents the deviation of outcomes and α represents the adaptive threshold inherited, then knowledge is practical if $\Delta v < \alpha$. This condition emphasizes the pragmatic utility of knowledge, contingent upon its ability to adapt within predefined limits.

2.2   Imperative Belief

Expanding on the themes introduced in Section 2.1, which discussed the implications of knowledge based on pattern contextualization and modular thinking driven by inherited survival strategies, we encounter a series of disconcerting conclusions. The absence of an absolute truth suggests that ethical distinctions, such as good and evil, become blurred when viewed through the lens of adaptive maximization, as articulated by Richard Dawkins[9] in *The Selfish Gene*[14]. For example, consider a scenario where homicide could enhance the propagation of an individual's genetic material, and the offspring are adept at adapting to their environment. Under these circumstances, the foundational moral principles of trust and ethics would deteriorate, propelling us into a volatile moral landscape. Furthermore, imagine a world akin to Orwell's *1984*[10], where perpetual war and mutual distrust are the norms. If survival in such a world depended solely on adopting the role of a dominant overseer, then what we traditionally perceive as "good" or "kind" might merely be the lesser of two evils. In this context, "virtue" would be understood only in terms of the gradations between outright malevolence and relative malevolence. Although Dawkins has not proposed

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[9] *"We are survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes"*

[10] George Orwell's *1984* is a dystopian novel that explores the extreme outcomes of totalitarianism and surveillance.

rigid-selfish constraints on ethics, provided that altruistic approach indeed possible[11], it is nevertheless possible for a group of people to possess elementary good-deeds in-between their own people, and act selfish upon others.

This perspective necessitates a cautious approach due to its profound implications. Motivated by a desire to navigate beyond nihilism and degeneracy, I have endeavored to develop a theory that counters such existential bleakness. However, this purposive action I employed is susceptible to criticism, particularly that it might be driven not by the pursuit of truth but by a desire to reach a predetermined conclusion to avoid such malevolence. Nonetheless, such critiques might veer towards the *strawman*, failing to address the substantive theoretical claims made in the theory.

Despite these challenges, the unsettling nature of the "selfish gene" theory compels us not to retreat from uncomfortable truths. In the quest for understanding, it is imperative to confront and disclose findings transparently, irrespective of whether they affirm or challenge our beliefs about truth and safety. In this context, the words of Friedrich Nietzsche resonate profoundly:

> *"When you gaze long into an abyss, the abyss also gazes into you."*

In a world devoid of inherent meaning, how do we discern what is moral or not? As explored in Section 2.1, even minor conditions can profoundly influence future events through the butterfly effect. This insight fosters a deep skepticism within me regarding the adoption and proclamation of any ethical framework that dictates prescribed actions as none would successfully predict what its consequences will be. This skepticism, coupled with an underlying foundationalism, perpetually hangs over me like a Damoclean sword, compelling me to conform to prevailing norms—akin to following the piper of the flock. Realizing the nature of conformity—where one may lack the will to investigate personally—underscores the complexities of navigating ethical decision-making in a context where definitive answers remain elusive. Henceforth, it is once again imperative to procure the ground of acting where it is beyond good and evil.

Consider the behavior of animal groups: Their actions, seemingly unsyntactic and purely natural, unfold within a continuous realm governed by a stark game known as *survival of the fittest*. This brutal reality is often referred to as the law of the jungle, where the only rule is the absence of rules. While it might be unsettling for some to acknowledge that animals hunt to survive, it is unrealistic to assume that wildlife adheres to a codified set of rules. Yet, amidst this apparent chaos, a form of balance exists. If there were no internal equilibrium, survival would be untenable for any species as each action would be a black swan event[12]. Despite this, species adapt and evolve, navigating through and prevailing within this seemingly chaotic balance of power. It is important to note that many species do go extinct. To

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[11] *"A gene that programs individuals to favor their relatives, other things being equal, will tend to survive in the gene pool."*

[12] Nassim Taleb discusses the concept of black swan events in his book, emphasizing their unpredictable nature and significant impact on systems, which aligns with the unpredictable shifts in natural environments.

clarify, the existence of a continuous, inherent balance in nature is not suggested, but rather, a transient balance observable from t_1 to t_2 as previously discussed.

Why would humankind adhere to any realm other than this, which remains unknown to me. Despite our advanced cognitive capacities, the influence of our limbic system often renders us quasi-intellectual in many respects, raising doubts about how distinct we truly are from non-human animals. If morality and ethics are merely evolutionary adaptations—conceptual tools designed for survival, much like our physiological traits—then it is plausible to suggest that other animals might also possess rudimentary forms of these concepts. Although not as sophisticated as those observed in humans, these moral inclinations in animals could serve similar adaptive purposes, facilitating social cohesion and enhancing survival prospects within their respective ecological niches. This perspective challenges the traditional view that separates human moral reasoning from the instinctual behaviors seen in the animal kingdom, suggesting instead a continuum of ethical complexity across species.

As I have emphasized before, it is crucial to examine *how* ethics manifests rather than *why* it exists in its sophisticated form. Ethics, synonymous here with morality, prescribes what one ought and ought not do. Adherence to these norms typically garners acceptance within a community. This relationship persists even when ethics is considered within the realm of abstract, theoretical constructs; it remains inseparable from actionable situations. In essence, concepts of "goodness" or "virtue" cannot be fully grasped without understanding their practical implications. Therefore, our perception of "goodness" is shaped by the *zeitgeist*[13], influencing societal norms and behaviors. Deviations from these norms often lead to social ostracization, inflicting a type of social pain[14] that can be excruciatingly difficult to bear. This trait of psycho-social imperative makes sense in the context of human evolution, as individuals typically lack the survival skills to thrive alone, necessitating a strong inclination towards community cohesion.

Unwittingly, we adopt ethical imperatives and modify them over time, rendering ethics—a concept like any other we've discussed—a relative construct. This perspective may face criticism due to the absence of definitive boundaries defining ethics or foundational certainties underpinning virtue. It could be argued that in such a framework, individuals might exploit situations to maximize their self-interest, particularly if moral absolutes such as right and wrong are dismissed. However, the theory of Imperative Belief that I propose does not deny the existence of good or bad. Instead, it acknowledges our general inclination towards forming conceptual generalizations that aim to define morality. From Plato[15] to Kant[16], these generalizations have been considered capable of theoretical articulation. Yet, despite sophis-

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[13]The *zeitgeist* refers to the defining spirit or mood of a particular period of history as shown by the ideas and beliefs of the time.

[14]Research indicates that social rejection activates similar neural responses as physical pain, underscoring the significant impact of social bonds on human survival

[15]In *Meno*, Plato explores the concept of virtue and its teachability, positing early ideas about innate knowledge and moral understanding.

[16]Immanuel Kant's deontological ethics, outlined in works such as the *Groundwork for the Metaphysics of Morals*, emphasize duty and the universality of moral law.

ticated efforts, they often lack solutions that hold universally, particularly when applied to specific circumstances. The issue, as I see it, is that we tend to overfit the particulars of actionable behaviors. These behaviors, when applied universally in society, can easily be adapted as circumstances change, underscoring the contextual nature of ethical systems. What I propose in *Imperative Belief* builds on two conceptual overlaps derived in Section 2.1: semantics of relevance and derivational relevance. I will explore these modalities to establish an ethical foundation.

Semantics of Relevance

What we perceive as good, denoted as x, represents relevant information while rejecting attributes that oppose goodness, denoted as against x. It is crucial to differentiate the use of "not" from "against." While "not x" implies anything other than x, "against x" specifically denotes attributes that are in direct opposition to x. To formalize this, let us use set notation as previously discussed in Section 1.3:

Within our theoretical construct, let E represent the comprehensive set of attributes that encompass both traditionally 'good' and 'bad' qualities, forming ethical attributes. Consequently, X, which symbolizes "good," comprises a subset of E defined by:

$$X \subseteq E \text{ where } X = \{x_1, x_2, x_3, \ldots, x_n\}$$

Here, each element x_i in X exemplifies an attribute recognized as 'good' based on prevailing consensus. For the purposes of this discussion, we will abstract from the complexities introduced by variations in meanings across different cultures and historical periods.

The negation of X, denoted by $\neg X$ (not good), extends beyond mere exclusion from E to encompass all conceivable attributes not aligned with 'good', including those that may not have been explicitly recognized or defined within E:

$$\neg X = \mathcal{P}(U) \setminus X \text{ where } U \text{ is the universal set}$$

This formulation indicates that $\neg X$ encompasses all elements outside of X, thus including attributes that are contrary to or excluded from our established understanding of 'good'. This is due to the nature of negation, as discussed earlier, which covers the entire space except for the known implied sets. These are elements that are unassessable, undefined, and unknown; the realm of the unknown extends beyond our current knowledge. The definition of what is unknown is inherently constrained by the limitations of X, which represents the extent of what is known. Contrastingly, $\overline{X}$ (against good), denotes attributes that actively contradict or undermine those within X:

$$\overline{X} \subseteq E \text{ such that } \overline{X} = \{x \in E : \overline{x} \text{ directly opposes elements in } E\}$$

The definition of $\overline{X}$ is pivotal within our framework, as it signifies not only opposition to individual elements labeled as "good" within X, but also clarifies that such opposition may not extend to the collective properties of X, represented by $\sum X$. This distinction is crucial as

it suggests that negations of "good" occur through specific, actionable instances rather than a comprehensive negation of the set. By addressing these details, we avoid the philosophical error of a metaphysical fallacy, where broad generalizations lead to conceptual distortions. Moreover, this analytical method highlights the diamorphic nature of ethical definitions, proposing that a thorough understanding of "good" inherently involves contrasting it with "bad". Additionally, Piaget's theories on cognitive development, which illustrate how humans learn and understand through negation—interpreted in earlier discussion as "against-ness." This supports the assertive nature of my claims, demonstrating that the analysis does not only depend on logical reasoning but also aligns with empirical observations.

In a business setting that prides itself on transparency and honesty, consider the subset X as representing all practices that align with open and honest financial reporting. While X encapsulates actions like straightforward disclosure of financial status, its negation, $\neg X$, might include scenarios where the company possesses advanced, non-public information about market changes. Acting on such information to gain an advantage—without deceiving or harming others—falls into a gray area that does not fully commit to honesty but is not overtly dishonest either. In contrast, $\overline{X}$, which represents a direct contradiction to honesty, would include egregious behaviors such as falsifying financial records or intentionally misleading stakeholders about the company's fiscal health to manipulate stock prices. This differentiation helps identify the subtle complexities in business ethics, where actions can range from fully honest, through ethically ambiguous, to explicitly dishonest.

Consider the act of giving money to those in need, which is generally perceived as ethical and morally commendable. Conversely, the omission of this act—choosing not to provide financial aid—is not universally deemed immoral. This scenario exemplifies the ethical grey zones that challenge our personal moral judgments and often do not provoke societal censure.

How can acting in a certain way be moral, yet its omission, or against-ness as described earlier, not be considered immoral? In cases concerning honesty, the failure to act honestly is typically regarded as immoral. Take another example: defending a person who is just, but facing majority disapproval which puts them in danger. Actively defending them is morally upright, yet choosing not to defend, despite acknowledging their righteousness and being the one who objectively diminish accusation, could be seen as morally questionable, if not immoral. These instances highlight situations where inaction may be perceived as either $\overline{X}$ or $\neg X$, depending on the societal norms and personal ethical stances involved.

Derivational Relevance

Variations in moral judgment often hinge on the position we assume in terms of our willingness to act. Returning to the example of donating money, consider a scenario where an individual has barely enough for their own needs. Here, choosing not to donate does not impose any moral burden. However, if this individual, despite their limited means, decides to donate because they perceive the recipient's need as greater, this action might be viewed as more ethically commendable than in the first scenario. Conversely, imagine a wealthy individual with billions, who opts to donate a mere penny. This act could be perceived as

morally deficient, not because of the act of giving per se, but because the minimal effort and amount relative to their vast wealth signify a divergent disparity between their capacity to help and the actual help rendered. This discrepancy may also indicate other underlying negative traits, such as a lack of genuine empathy or a token gesture intended more for self-satisfaction than altruistic impact.

It is a truism that water in the desert is far more valuable than water in a river. Accordingly, a sparse amount of water is significantly more valuable to a tree in the desert than to a taiga in the forest. Our actions cannot be evaluated in isolated generalizations; rather, the context in which they are performed plays a critical role in determining their moral weight. This consideration further complicates our ability to predict the consequences of our actions, as even those deemed morally sound may lead to unforeseen negative outcomes. Thus, theories like consequentialism provides either a narrowly focused, or context-insensitive set of ethical criteria which fail to oblige with the motivation of action taken. Metaphysically grounded moral arguments often fail to justify the ontic foundations of morality and resonate poorly with applied ethics. Our moral perceptions are not merely products of culture and psychology; they also emerge from innate traits that have evolved to facilitate social organization and coherence that resonates our action orientations. The rules that have proven effective in the past demonstrate the constraints and freedoms that anchor our actions, which we define as "ethics" in the realm of social hemisphere.

The application of set theory and formal logic in ethical discourse allows for a precise delineation of 'good' versus 'not good', and 'against good'. Such clear distinctions are essential for philosophical and ethical clarity, helping to circumvent the ambiguities that frequently obscure ethical discussions and theories. This methodological precision prepares the ground for the critical statements on ethical standards that I will introduce in the next section.

2.3   Xenogenesis

"As above, so below. As within, so without." True to this maxim, the world we live in is inherently shaped by our internal character. What kind of present do we wish to manifest? As Nietzsche famously declared, "God is dead"[17], so too is traditional morality. Around the globe, adherence to the artifacts of morality has become optional, subject only to personal whim. Individuals can and mostly do exploit these artifacts as long as they can prevail over them. In this light, both criminal and civil laws fail to compensate for or establish a genuine foundation for moral choices, as the essence of law is obligation, not moral guidance. Concluding this thought, if a detailed set of laws governed every aspect of life, true moral grounding would cease to exist. Every action would be either allowed or forbidden by state constraints, leaving no room for moral autonomy. True ethical actions require internal choice; imposing external constraints on what should be avoided only serves to limit free will, thereby diminishing the potential for human growth.

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[17]Friedrich Nietzsche's proclamation refers to the decline of traditional religious and consequently moral structures in modern society.

The primary motive behind our reliance on rules imposed by the state or community appears to be their effectiveness as tools for exerting political, social, and economic control. Our behavioral tendencies are largely shaped through adaptive selection within a community setting, yet the complexities of social structures have introduced a new dimension to this evolutionary process. This added layer leverages the desire to assert authority, whether done intentionally or inadvertently. In such environments, our understanding of ethical boundaries and spheres of action is largely overshadowed by the mandates of organizational powers. I theorize that this tendency to subsume personal connections under institutional directives correlates with Dunbar's number. Dunbar's number, proposed by Robin Dunbar, suggests a cognitive limit to the number of people with whom one can maintain stable social relationships—relationships in which an individual knows who each person is and how each person relates to every other person. This number is commonly cited to be between 150 and 200, but segments within this range, such as 25 and 125, are considered critical thresholds for smaller, more intimate groups. As community sizes exceed certain limits—approximately between 25 and 125—we begin to lose personal connections with others in the community, a topic I will explore further in subsequent paragraphs. The diminished genuine interaction due to surpassing Dunbar's number leads society to create a new layer of social representation, such as state-like organizations. It is almost impossible to understand and adhere to social dynamics and rules in a society where we cannot have meaningful interactions. Consequently, the creation of social state-like governments allows us to surpass crowded groups and form a single entity on behalf.

The complex relationship between power and ethics gives rise to a scenario where ethical standards transcend their original role as mere guidelines for moral conduct, transforming into instruments of dominance and manipulation. This dynamic significantly complicates the authentic pursuit of morality, as the foundational goal of ethical norms—to promote communal well-being and fairness—is often eclipsed by their utilization as tools of control. As societal structures continue to evolve, so do the tactics employed by these structures to shape and manipulate ethical perceptions in order to uphold and augment their power. Consequently, the ethical framework of any society not only mirrors its collective moral compass but also reflects the intricate power dynamics that permeate its social, political, and economic fabric.

Nevertheless, the genesis of early morality may be anchored in neuropsychology, which elucidates our perceptions of actions as 'good' or 'bad.' Extensive research into empathy seeks to decode how this phenomenon, deeply ingrained in our traits, serves as a cornerstone of moral judgment. A particularly insightful study by Paz[15] reveals how depression spreads among individuals, akin to a contagion within networks of emotional exchange—most notably among those bound by strong social ties such as family members and close friends. The spread of this affective state is further influenced by the positive valence of these interpersonal relationships. These insights suggest significant implications for social cohesion. I propose that communities could strategically enhance their collective well-being by creating environments that facilitate the healthy exchange of emotions. Such emotional interactions could be enabled through processes like automatic mimicry and the activation of the mirror neuron system (MNS), which are vital for fostering empathy and understanding among

individuals. This phenomenon indirectly underscores the ontic essence of morality—it is not merely an abstract concept but an isomorphic structure embedded within our cognitive systems. Therefore, I conclude that the roots of morality are fundamentally based on empathy, illustrating a profound intersection between neuropsychological mechanisms and ethics[18]

If this is true, understanding what constitutes 'good' involves considering the emotional responses of those affected by our actions, ensuring that our intentions align with both semantic meaning and practical relevance. Such intentions are shaped through *cooperation among nonkin*, as Pinker[16] has shown. Additionally, when an organism's behavior changes due to its interactive environment, a selection pressure arises, necessitating further adaptations to exploit this new dynamic. Consequently, I see a significant opportunity to apply our comprehensive understanding and inherent traits to reinterpret ethical standards using this method, which I named it Xenogenesis. This would not only redefine ethics through the lens of cognitive empathy but also serve as an urgent call to action, emphasizing the need to safeguard and enhance civilization in anticipation of forthcoming challenges that I discussed in 3.2.

Before the revelation, there is one important aspect to discuss by extending beyond the realms of ethics or cognitive science; as ethical assumptions unwittingly delve into the clarification of self-identity. My professor, Stephen Voss, has developed a theory on personal identity which is documented in his work [17]. He builds on the foundational ideas of Derek Parfit, who argued that identity is not linked to any enduring substance like the Cartesian concept of a soul but is instead tied to the continuity of psychological processes and the physical material that sustains life[19].

Professor Voss introduces what he calls the "Parfit Principle," which posits that an individual's existence continues as long as the material constituting them sustains their characteristic functions. He further explores this idea through the lens of biological processes, such as reproduction, positing a provocative theory: we might all be the same person. This is illustrated using what he refers to as the Amoeba Principle and the Inverse Amoeba Principle. The Amoeba Principle asserts that each new amoeba, created through a process of fission, retains the identity of the original. Conversely, the Inverse Amoeba Principle suggests that a zygote, formed from the union of an ovum and a spermatozoon, embodies the identities of both contributing cells, thereby suggesting a continuity of identity across generations.

The theory of identity warrants thorough examination. It is both inspiring and intuitive, leading me to assert that we might, indeed, all be the same person. Such a claim is highly speculative and ambiguous, yet it resonates with the assertions made by Voss. In light of these, I add further elements to bolster my propositions, which, while possibly appearing mythological or metaphysical, have significantly influenced the construction of my arguments.

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[18]Please see: Steven Pinker, "The Cognitive Niche: Coevolution of Intelligence, Sociality, and Language," Department of Psychology, Harvard University, Cambridge, page-8994

[19]Derek Parfit's theories of identity challenge traditional notions by suggesting that personal identity is not about a single, unchanging substance. Instead, it's about psychological connectedness and continuity.

If the explanation of historical progress and its impact on cognitive enhancement within philosophy, science, and culture remained unclear in our previous discussions, let it now be clarified. The core of differential theory is not merely symbolic re-representations of what is already known; rather, it serves as an explicit method for uncovering answers to the question "how." The examples and discussions previously presented illustrate how "knowledge" has shaped both the world and us, and vice versa. I do not regard knowledge merely as an axiomatic product of a compulsive survival mechanism. Instead, I propose that culture, independent of genetic traits, mimics a design similar to genetic selection and inheritance, where knowledge functions like genetic variations of nucleotides. However, this analogy should not be taken as a direct resemblance but rather as a figurative comparison used to theorize. If this clarification settled, now it is time to establish the framework for Xenogenesis.

Clearly, empathy involves a non-physical interaction that is facilitated through neural activity. Specifically, when the mirror neuron system is activated, it allows us to retrieve and understand emotional information from others. This process not only enhances our ability to adjust our behavior in less selfish ways but also deepens our cognitive and emotional understanding. Assuming no pathological impairments exist, an individual should be capable of engaging with this innate modality of empathetic thinking and acting. The motives behind our capacity to empathize are varied, yet one fundamental aspect involves the nuanced perception of emotional variances. This allows an individual to adopt another's perspective, effectively seeing the world through their eyes. This capability is not only significant for the field of neurology but also has profound implications for all aspects of human interaction. Knowledge, therefore, is not confined to the assumptions one initially defines but also encompasses the opposite, or contradictory, elements as previously discussed. Thus, I propose that individuals empathize and act in less selfish ways because they gain a deeper understanding by viewing situations from the perspectives of others, integrating both emotional and rational elements carried by those around them. The more we come to know others, the more we start becoming alike.

To illustrate why ethics concerns not just the individual but a group of people, consider a hypothetical scenario involving the last man on Earth. Imagine a great tragedy has occurred, leaving him as the sole survivor. In such a situation, would it be possible for this person to perform a moral or immoral action? Without others to interact with, the concept of morality becomes intangible. Although the individual might still adhere to personal principles, morality, as traditionally understood, ceases to function in isolation. This scenario serves as a potent example of how morality is not solely a product of internal contemplation but rather emerges from social interactions and is deeply intertwined with empathy. After all, the morality has always been within us, embedded in our interactive cognition.

Chapter 3

Epiphany of White Rabbit

> *"You hear that Mr. Anderson? That is the sound of inevitability."*
>
> *Agent Smith*

Alice in Wonderland[1], and she follows the white rabbit. But what does the white rabbit symbolize? In the book, the white rabbit is constantly concerned about being late, representing a new reality of Wonderland and symbolizing curiosity adventure through the rabbit hole. This is almost identical to what the contemporary world is experiencing nowadays. It is necessary to ask: What will be our white rabbit in the realm we know? Mainly, while robotics, artificial general intelligence, neuro-augmentation, automation, and widespread mass propaganda develop, the epiphany of the white rabbit will become clearer. The assumptions and conformist processes we rely on today might be in great danger, as if we have domesticated both our minds and bodies to the point that we have no idea what to do or how to live outside of the barn we were born in. In such times we must remember: There is no destiny to passively tolerate, but a destiny to willfully create. That is to say, there is one destiny to live, the destiny we create.

3.1 First Gradually Then Suddenly

Before delving deep into the topic, I would like to emphasize a few points here. This is the final chapter of my thesis where I will be discussing contemporary issues, using the speculative grounding I have established throughout the paper. I acknowledge that multiple factors and results may be proposed, and certain aspects of the approach I have taken may be criticized. Nevertheless, I believe such critiques should be investigated through another articulation of writing, as these debates require extensive work and prolonged study. This thesis is not capable of formatting such a case; therefore, I will continue investigating the inquiry through the main frameworks, without getting into details.

Similar to Moore's law[2], the transition from primordial times to modern day has always

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[1]Lewis Carroll, *Alice's Adventures in Wonderland*, (London: Macmillan, 1865)

[2]Moore's Law posits that the number of transistors on a microchip doubles about every two years, though the cost of computers is halved, suggesting a predictable and steady rate of technological progress.??Please see Appendix]appendix:c

been a process and not a single advancement, and yet, not in the same differential degree. Around the 18th century, the pace of change began accelerating as new technologies were continuously invented, enhancing welfare for all through the industrial revolution. However, subsidiary effects can be traced back to the invention of writing and farming. The industrial revolution is unique because it had a profound impact on human society through economy and culture. I speculate that such occurrences should not be reduced to mere economic outputs as any goods or services are relative information packages. When we see, taste, or interact with something, we establish communication through a method of sensation. We require certain protocols to facilitate such communication; otherwise, it would be impossible for such transactions to occur.

Consider a person who knows English but lacks Turkish. Both the receiver and the sender have different communication protocols, hindering effective interaction. While they are human and might find a common ground to exchange certain basic information, they still lack a common protocol for deeper communication. For one other example, assume there is an elderly person who has never seen nor used a smartphone, which is not uncommon even today. Such a person would lack even the basic understanding of how to navigate or use a smartphone in any way. It is the lack of understanding certain rule sets, protocols, and reciprocal information that impede communication.

It is crucial to understand communication not merely as dialogue in our everyday lives but also as any exchange of information occurring between interactable living and non-living entities. Each entity carries information, at least about their existence, either passively or actively. Thus, the production of goods should also be viewed as packaging information. This is why we are able to interact with and utilize these goods according to our goals, provided we understand their underlying protocol. This principle elucidates why the Industrial Revolution marked a significant shift from stable progression to rapid deployment: it provided massive amounts of goods and services—essentially packaged information—alongside cultural, philosophical, and scientific inquiry. Consequently, I speculate that any phenomenological occurrence increases utility and power, enhancing applicability and usability.

Furthermore, it is essential to distinguish between noise[3] and information. Our understanding of information is as relevant to the world as our ability to adapt differentially. As previously speculated, we do not have the capacity to know what we do not know, but only an understanding of what is relevant. Having progressed thus far, it is plausible for us to find ourselves stagnating in the pits dug by the very revolutions we have sparked. For instance, while we continue to discover new theorems, innovations, and technological applications based on what has been articulated, it is questionable whether our sensory comprehension and modular thinking can sustain this process indefinitely. Consequently, it is also conceivable that we might reach a peak of the parabola, continuing to lead this renaissance by intensifying the integration of integral and differential modularity. Thus let us articulate such stance by naming it network of ideas.

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[3]Unarticulated, non-categorical inputs that do not convey clear or useful information.

3.2 Naturally Artificial

It is interesting to observe such phenomena where natural beings lead to artificial creation. While it may be somewhat vague to provide a precise boundary between the artificial and the natural, and avoiding such a language discussion, it can be asserted that computers are becoming more and more powerful, as if their natural selection has propagated through human consciousness. To put it differently, they are becoming naturally artificial.

Information encompasses everything: what we see, touch, think, desire, and dream. It constitutes the complete phenomenological experience of participants who share the same communication protocol. For instance, if you cannot sense radio waves, it is not because they do not exist, but because you lack the necessary protocol to perceive and interact with them. A similar principle applies to color perception, where the visual cortex must possess a specific design protocol to discern and interpret different wavelengths of light. Interestingly, this process is akin to acting as a compiler in the world we are thrown into, similar to Procrustes[4]. We are compelled to fit into the bed — or in this case, the world's informational framework — to function effectively within it.

We have discussed how the Levant region influenced contemporary world philosophy. This region's geographical landscape facilitated settlements and trade, in contrast to the isolation experienced by China, which is encircled by vast mountains and harsh deserts, and where the ocean does not readily support naval endeavors. This geographical advantage allowed the Levant to become a hub for extensive information exchange through well-established trade routes and close integration with neighboring regions. However, with the Colonial expansion and the establishment of new maritime trade routes, including the transatlantic route, the Levant's role as an information conduit to Europe diminished. This shift began in the 15th and 16th centuries and coincides with a decline in the economic, cultural, and political influence of the Levant region [18].

What intrigues me in this speculation is the potential for computer systems, neural networks, or signal processing devices to converge information from their surroundings. Such capability could potentially foster new modes of thinking, as computers excel in memory recall and rule-based pattern recognition. Conversely, human neurons, which utilize electrochemical signaling, present a far more complex and self-sufficient architecture. It is currently unwise to directly compare computers with humans. However, considering the relational dynamics between information and progress offers valuable insights into this discussion.

Neurons typically spike at approximately 5 Hertz in a resting state and can fire at 100-500 Hertz during active operations[5]. In contrast, computers in practical applications can achieve

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[4]In Greek mythology, Procrustes was a rogue smith and bandit who adjusted his guests to the size of his iron bed by stretching them or cutting off their legs, symbolically illustrating how individuals are often forced to conform to arbitrary standards.

[5]The work by Francis Crick in 1995 for more detailed insights on neuron activity

clock speeds exceeding 10 million cycles per second[6]. This immense processing power enables complex computations and applications that were previously unimaginable.. This translates to:

$$10,000,000 \text{ cycles per second} = 10 \text{ MHz}$$

Such computational speeds, particularly when applied in neural networks that employ differential algorithms—assuming here that these algorithms contribute to what might be perceived as computational consciousness—could radically alter our technological landscape. These systems are not only capable of mimicking consciousness but are also adaptable, using open-access information to derive new approaches, similar to human cognitive processes as discussed earlier.

In scenarios where sudden technological shifts render human labor redundant, providing all necessities more efficiently and abundantly, an existential crisis seems inevitable. Assuming this scenario unfolds beneficially, my concern is not with the change itself but with our ability to adapt alongside these transformations. The critical issue arises when we consider our biological limitations in comparison to the full potential of Artificial General Intelligence (AGI). The relational thinking and modular deduction facilitated by AGI may reach levels that are incomprehensible with the standard cognitive extensions currently achievable by the human mind. If such capabilities become operational, it raises profound questions about the plausibility of maintaining control.

Even today, we find ourselves grappling with the influence of mass media and manipulation, highlighting our limited understanding of the human brain and cognition. This situation presents a pivotal epiphany for humanity: we must decide whether to follow this path into the unknown—akin to following the rabbit down the hole—or to close the book on these advancements altogether. The choice we make will not only reflect our current technological and ethical standards but will also set the course for our future societal structures and our role within them.

3.3   Oracle

In order to expand the boundaries of knowledge, I propose a highly speculative yet potentially transformative idea: *transhumanism.* Unlike the visions depicted in futuristic comic books, transhumanism here refers to the augmentation of silicon-based devices into carbon-based bodily parts. While the idea might seem absurd, it is a path we are already traversing, albeit unwittingly, through the devices we use every day.

Consider the smartphone, through which we interact with the world via a screen, receiving and sending information globally. These interactions enhance both our imagination and intellectual capacity. To someone from the 15th century, this would seem like a dreamworld,

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[6]Modern CPUs can perform billions of cycles per second. For example, a 3 GHz CPU operates at 3 billion cycles per second (3 GHz = 3,000,000,000 Hz). The highest clock rate of a production processor is the IBM zEC12, clocked at 5.5 GHz, or 5.5 billion cycles per second. Source: TechTerms and Wikipedia.

as their access to information was limited to their immediate environment, stifling their intellectual growth and the actions they could take.

Moreover, it is increasingly common for people to enhance their biological capabilities through medical interventions such as organ transplants or cognitive enhancements like nootropics. These methods serve a similar purpose: they allow us to better understand and improve our lives by altering our cognitive and physical capabilities. What distinguishes transhumanism, particularly through Human-Computer Interaction (HCI) devices integrated with the brain, is the scope of interaction. This expanded interaction is crucial as it allows humanity to present a higher intellectual capacity relative to its competitors. Historically, humans have thrived through intellectual and rational superiority. The challenge with transhumanism lies in the high cost and complexity of redesigning the brain's biological structure to sustain increased processing power and enhanced memory recall.

"What is an ape to a man" asked Nietzsche. *"A laughing stock, a thing of shame"*, he concluded. *"What is a man to a superman"* as he renewed the question. The answer was obvious: *"A laughing stock a thing of shame"*

Behold, as we stand at the precipice of a new era, where man is no longer merely man but something more. In the shadow of the great mountain of progress, we shall forge a new being, transcending the flesh and bone to which we are born. This nascent being, born of silicon and intellect, challenges us to reconsider what we hold to be true about our nature. Just as Prometheus once defied the gods to gift humanity with fire, so too may we defy our biological constraints to gift future generations with a new form of consciousness. Yet, let us tread carefully, for in our quest to transcend our humanity, we must not lose sight of it. The path of transhumanism is laden with both promise and peril—a double-edged sword that can elevate or degrade, liberate or ensnare. Remember, the power that cannot be controlled, control thyself.

And thus spoken Zarathustra.

3.4 Prometheus's Fire

Just as Prometheus defied the titans to bring fire to humanity, empowering them with knowledge and technology, so too does the transhumanist vision seek to empower modern humanity through the integration of AI and robotics. However, this powerful technology, much like fire, is a double-edged sword. It holds the potential to significantly advance human capabilities and understanding, yet if controlled by only a select few, it risks igniting unprecedented inequalities and social upheavals. This is a tangible risk of competition for a monopoly over information, resulting in asymmetric power relations[19] between those who "know" and those who do not.

The allegory of Prometheus's fire serves as a potent reminder of the transformative power of technology. Fire, in the myth, is not merely a physical flame but a symbol of enlightenment

and progress. In our contemporary context, AI and neuro-robotic technologies represent the new fire—a tool so potent that it could redefine the foundations of human existence. Yet, the risk it poses is profound. If this 'fire' falls into the hands of those who govern without checks, who monopolize its benefits and gatekeep its access, the resulting inequality could reach dystopian proportions. This concentration of power could lead to a new class of rulers—akin to the mythological gods who jealously guarded their heavenly fire, fearing what humans might do with such power.

Moreover, the integration of AI into our biological fabric could lead to a future where human cognition and decision-making are so enhanced that the line between human and machine becomes blurred. The potential for misuse of such technology by those in power mirrors the fears of Prometheus's punishment—eternal torment for his transgression against the gods. In our case, the torment could manifest as societal control and surveillance, imposed under the guise of progress and security.

Therefore, it is imperative that as we tread the path of technological integration, we ensure that these tools do not become exclusive to those who already wield power. We must liberate access to AI and neuro-robotic enhancements, preventing any one entity or group from monopolizing this modern Prometheus's fire, as we have previously done with the world-wide-web. This approach will not only safeguard society from the risks associated with concentrated power but also ensure that these profound technologies serve as a means for collective human advancement rather than a tool for individual aggrandizement.

The fire of Prometheus today symbolizes our struggle with AI and transhumanism—a struggle between using this power to uplift humanity as a whole or allowing it to become a tool for significant social division. As we harness this new fire, let us remember the lessons of the past and endeavor to distribute its benefits justly and wisely, ensuring that we do not repeat the mistakes that myths have warned us against. Otherwise, we may face the eternal recurrence of the same.

.1 Appendix A
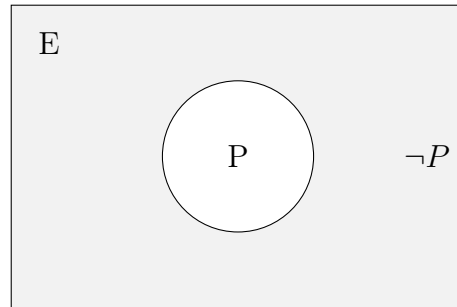
In the displayed diagram, the set P represents a specific group of concepts or entities acknowledged within our theory of Differentialism. Everything outside of P within the universe set E is denoted as $\neg P$, illustrating elements that do not conform to the attributes of P. This visual representation helps clarify the distinction between accepted norms or properties within our theoretical framework and those that lie outside its scope, thereby underscoring the boundary of philosophical inquiry as dictated by Differentialism.
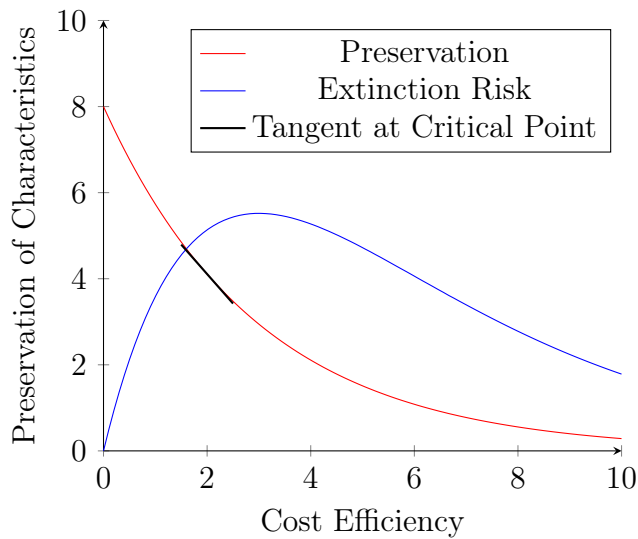
.2 Appendix B

Figure 1: The critical point analysis reveals the vulnerability thresholds in biological systems, suggesting management strategies for conservation efforts.
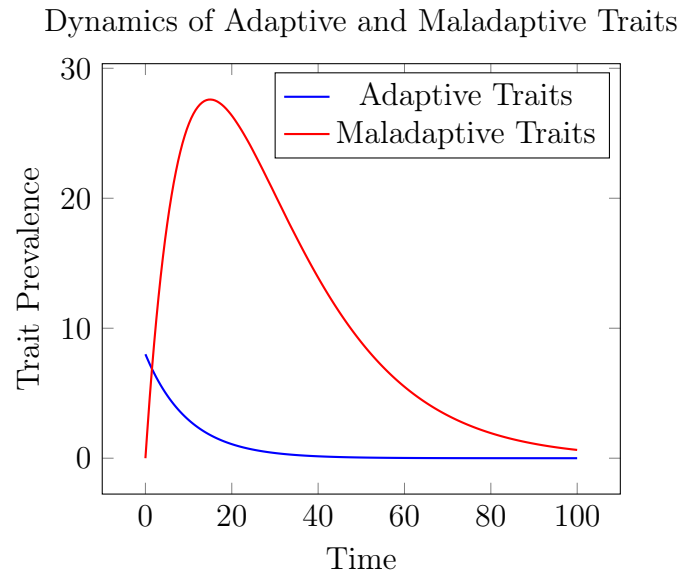

Figure 2: Simulation of trait dynamics showing responses to environmental changes over time.
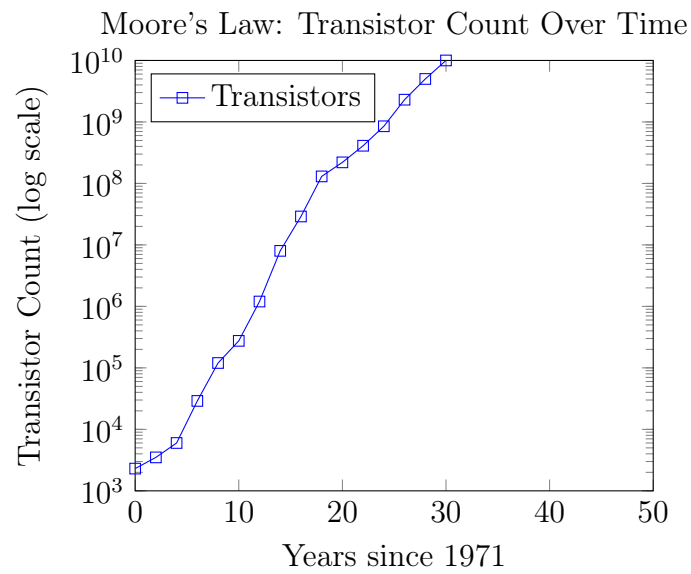
.3 Appendix C

Figure 3: Graphical representation of Moore's Law based on the number of transistors doubling approximately every two years.

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