

# The Mind's World

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## Abstract

In recent years, the advent of Artificial Intelligence (AI) has profoundly reshaped the way we access and utilize humanity's vast reservoir of knowledge. Equipped with this powerful tool, I have undertaken a thorough exploration of the Human Mind, motivated by a growing concern: the evident decline in students' enthusiasm for learning.

More specifically, as a professor and researcher, my need for understanding has driven me to explore in depth what defines us as Human beings and what sets us apart from other species. This investigative journey prompted me to reevaluate the evolutionary process, revisit Darwin's theories, and contemplate fundamental questions regarding the nature of time and reality. These reflections ultimately culminated in the formulation of a concept we call the "Total Universe", a realm in which all possible events and interactions coexist.

Building on this concept, we formulated a Theory of Consciousness rooted in the exploration of this Universe through our minds. This culminated in the emergence of the "World of the Mind", which represents Human reality within the Total Universe, the fusion of all existing Human realities. Importantly, this theory not only integrates various theories of consciousness but also provides a clear framework for understanding what it might mean for Artificial Intelligence to attain consciousness.

Hence, I invite you to embark on this journey of reflection, guided by this collection of written codes that encapsulate the discoveries made within the Total Universe through my mind, my reality. My perspective may resonate with yours, or it may not, and both are entirely valid. After all, each individual inhabits their own unique reality.

# Contents

1	Introduction	3
2	Mind	8
3	Intelligence	16
4	Time	22
5	Consciousness	31
6	Mind's World	42

# 1 Introduction

To understand the logic of this work, it is essential to first grasp the journey of the author's Mind. In due course, I will explain why this strategy has been adopted. Strategy? Is this text a game? Human society has evolved by creating constructed orders that serve as the foundation for other constructed orders, in a continuous cycle. And like a text, a game is a constructed order.

But what exactly is a constructed order? Philosophers have explored the notion that Human societies establish conventions, norms, and institutions that are, in a sense, social constructs or *constructed orders*. These orders influence behaviors, social relationships, and the organization of society itself, often shaping reality according to the needs and cultural values of a particular group or Mind. In other words, a theory, a paper, a text, is essentially a constructed order. We can think of a constructed order as a standardized line of code devised by Minds. For instance, a country's Traffic Code is a constructed order that allows people to navigate the nation's roads by following a set of rules, an order, a set of codes. Another example is a country's Constitution, which is a set of rules that enables its citizens to live together in a community, adhering to a shared code of values, rights, and duties, thereby forming a society.

Well, in the year 2019, during the pre-COVID-19 pandemic period, I came across the following reflection by Einstein:

*“If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask for once I know the proper question, I could solve the problem in less than five minutes”.*

This quote prompted me to question whether we are truly dedicating 91,666667 % of our time to reflecting on our problems, both on a personal level and within society as a whole. It makes perfect sense to invest the majority of our time in contemplating the issue, consciously exploring its many facets and weighing the pros and cons, costs and benefits, and diverse perspectives. By doing so, we maximize our reflection time and thoughtfully examine various potential scenarios. This preparation enables our brains, at the crucial moment, to make better decisions for solving the problem than if we had acted impulsively.

From that moment on, I decided to adopt an “Einsteinian approach” to thinking about life, striving to reflect as deeply as possible on a wide range of topics. Naturally, my first exploration “in search of the right question” took place in the field of education, as I am a professor.

Unfortunately, one of the main topics of conversation among teachers in cafés around the world is the growing disinterest and lack of discipline among students in the learning process. It is crucial to highlight the phrase previously mentioned: “...*the growing disinterest and lack of discipline among students...*”. This statement clearly attempts to place the entire responsibility on the students, which can be quite unfair. After all,

what is not interesting does not generate interest.

Next, we present some facts and reflections that support the previous statement. Unfortunately, the Human Education System, in general, has become uninteresting. Let’s consider:

What is the goal or purpose of the entire Education System in a society?

The answer could be extensive and complex, encompassing a range of valid and just perspectives. However, I will attempt to summarize this purpose as follows: more precisely, the education system of a society as a whole aims to:

equip future generations with the knowledge of Humanity,  
enabling them to live meaningfully and contribute to society,  
guide their development,  
and inspire a continuous exploration of the unknown.

And so, inevitably, arises the question:

Are we training future generations in the best possible way, today?

Nearly all aspects of our education system are rooted in the thoughts, ideas, objectives, and structures of the last century. In essence, we continue to adhere to the codes, the “rules of a bygone game”. It is clear that the game has changed and evolved significantly. We are undoubtedly living in a new era for Humanity.

Have you ever paused to consider that there is no longer any “distance” between Human Minds? With today’s technologies, we can connect instantaneously with any mind around the globe, utilizing two senses for this exchange of information: sight and sound. In other words:

We have created the “mind teleportation”.

Moreover, this communication does not necessarily have to occur in the exact same temporal space. For example, conversations through instant messaging apps allow the exchange of information with multiple other Human Minds simultaneously (with intervals of seconds, minutes, hours, etc.), according to each person’s priorities at any given moment.

Moreover, all existing works, whether scientific, literary, musical, videographic, or otherwise, should be seen and understood as creations of Human Minds, embodying various events and lines of code, as they truly are. Thus, whenever we engage with any such work, we are essentially accessing information conceived and crafted by Human Minds at moments in the past, whether through written, visual, or auditory language. Consequently, stored and structured knowledge serves as a timeless method of exchanging information between Minds.

Today, we can access nearly all of Humanity’s knowledge instantaneously, spanning almost every complex language system used by Humans, all with technology that fits in the palm of our hand. However, the current educational models, developed during the Industrial Revolution, were designed to cultivate specific skills such as quick calculations, information memorization, and strict adherence to protocols. These training methods were essential for creating an efficient workforce capable of performing repetitive tasks with precision. Yet today, these protocols have become obsolete and fail to foster meaningful skills, especially considering that our smartphones can perform many tasks instantaneously.

Moreover, it is important to highlight that our brains are naturally programmed to seek the easiest and most efficient path. For instance,

The disinterest of students in the current educational system, which fails to meet the needs and expectations of the digital age, seems to be a natural consequence.

Thus, we reiterate the question:

Are we truly training future generations in the best possible way?

The fundamental issue with this question is that when we speak of “better”, it inherently requires a basis for comparison. “Better” or “worse” is a subjective and biased opinion. What is best for the Human Mind? What is best for Human society? These questions are genuinely complex and carry significant risks when attempting to answer them without relying on some long-term purpose or objective.

What is the goal or purpose of a species?

What is the purpose of existence?

The answer to this question might lie in the “ $+\infty$ ” (positive infinity) of life, meaning we may never truly know the answer. We can compare the temporal dimension of existence to a one-dimensional line. In the case of this line,  $-\infty$  (negative infinity) and  $+\infty$  (positive infinity) are symbols representing its “ends”. It’s essential to have the maturity to grasp the concept of infinity and deeply understand that  $+\infty$  and  $-\infty$  are symbols, not numbers; they are unreachable. Infinity is a code within an constructed order, in this case, mathematics, that represents a concept: what has no limit, what is infinite, what has no end. Therefore, if the analogy of the timeline of existence with a one-dimensional line holds, the answer to the origin of life is at  $-\infty$ , and the purpose of existence is at  $+\infty$ .

In other words, “purpose” is linked to the future, to subjective events that have not yet occurred, which are entirely uncertain. Therefore, predicting the future is impossible, but imagining it is not. In other words, purposes are constructed; they are projects of futures, possibilities of events, codes created by Minds that can impact individuals or entire communities, a trait entirely characteristic and unique to Modern Humans, the Sapiens.

Looking to the past, the history of hominid evolution, culminating in the emergence of Sapiens, is a journey that unfolded over millions of years. This evolutionary path was marked by a succession of species, each contributing to the complexity and diversity of hominids. More precisely, for millions of years, the Human DNA code has undergone mutations, resulting in increasingly efficient biological systems for exploring the physical structure of the Earth. These systems, thanks to the abilities provided by the Human Mind, are now well understood, in a sense. More precisely, we have extensive knowledge of Human anatomy; our muscles are well comprehended, allowing for even complex reconstructive surgeries. We have health professionals who understand what we should eat and how we should exercise to maximize the potential of our visible muscular structure: sculpted muscles, increased strength, agility, and dexterity. This is accomplished through a carefully planned, structured, and balanced process of stress and muscle fatigue.

However, it is believed that the emergence of the Human Mind is a relatively recent event, dating back to around 100,000 B.C. The events that define this emergence are the scientific findings of artistic works from that period, which represent the earliest evidence of Human subjectivity. These events are commonly referred to as the *Cognitive Revolution*. In summary, the Cognitive Revolution marks the beginning of the Sapiens' ability to create stories, construct orders, establish codes, and generate events.

The Mind is often regarded as the faculty through which we experience and interpret the world, forming the foundation of consciousness and individual identity. It is also closely tied to learning, adaptation, and social interaction. Composed of an intricate network of neurons and synaptic connections, the Human Mind is an extraordinarily complex phenomenon and, seemingly, still far from being fully understood by science. According to *Chalmers* (1996) [Chalmers], the study of consciousness and the Human Mind can be divided into two distinct categories: the “easy problems” and the “hard problem”. The *easy problems* involve explaining cognitive functions, such as the ability to discriminate, integrate information, and report mental states, essentially, understanding the physical mechanisms underlying brain activities. The *hard problem*, however, addresses the deeper question of why and how these physical processes in the brain give rise to subjective experience, what it truly means to possess an identity or to be conscious.

It is within this context that the purpose of this text becomes clear. The Sapiens' abilities to create and envision future possibilities can also be used to:

Create theories that model our evolutionary past.

More precisely, this work aims to propose ambitious Theories about biological systems and their evolutionary processes, which culminated in the emergence of consciousness, the MIND, and its consequences, such as the perception of time.

## 2 Mind

The Human Mind is the term given to the traits and abilities that distinguish us as a species. While animal brains, particularly those of primates, are remarkably similar to those of Homo Sapiens:

How did the Sapiens' brain evolve to the point  
where it significantly differs from other species?

The emergence of the Human Mind is a biological evolutionary act of the Sapiens species, and the entire evolutionary process is a sequence of possibilities and DNA mutations.

What mutation, what ability emerged that allowed us  
to become thinking beings?

Modern Humans, Sapiens, and the Human Mind are the results of genetic mutations that produced advantages and abilities, enabling survival over millions of years. As *Darwin* (1859) [Darwin] argues. Therefore, it makes sense to explore comparisons between Sapiens (the Human species as a whole) and other animals in a quest to understand the abilities that set us apart.

In general, regardless of the specific abilities developed by each species, the capacity for learning is intrinsically linked to survival. In animals with brains comparable to those of Homo Sapiens, we observe a remarkable ability to learn from surrounding experiences, a continuous process that refines the animal's methods and approaches as it explores its environment.



The learning process in animal brains involves several interconnected stages. Information gathering begins with the senses: vision, hearing, smell, taste, and touch; the entire sensory system, capturing, encoding, and transmitting stimuli to the brain. The *sensory system* is the set of structures that detect stimuli and information from the external or internal environment and convert them into neural signals. These signals are then processed to create a perception of the environment. We can view the sensory system as the “gateway” of information into the overall system.

Biologically, all animals learn from their own experiences. Within animal brains, there is a reward (pleasure) and punishment (pain) system that associates sensations with lived experiences through neural networks. This integrated system of connections helps animals discern what is beneficial or not, what makes sense or doesn't. In essence, it is a process of learning through trial and error.

If it feels good, do it again; if it hurts, don't do it.

More specifically, when an experience is rewarding, the sensation linked to that neural network is “pleasure”, increasing the likelihood of repeating the associated behavior, while the sensation of “pain” has the opposite effect, decreasing that probability. This mechanism plays a fundamental role in adaptation and development.

This understanding is the foundation of *Skinner's Operant Conditioning Theory*. According to *Skinner* (1938) [Skinner], it is possible to shape brain behavior through operant conditioning, where voluntary responses are associated with reinforcements (“pleasure”) or punishments (“pain”).

*“Teaching is simply the arrangement of reinforcement contingencies.”*

However, this is not the only way an animal's brain can refine its perception and exploration of the environment. It is now understood that all species, in some way, also mirror their peers as a form of learning. This phenomenon is known as *Modeling Theory*, where future generations learn from previous ones by copying their strategies and behaviors.

Modeling Theory, also known as *Social Learning Theory* or *Observational Learning Theory*, emphasizes the importance of observation and imitation in the learning process. Biologically, individuals learn by observing the behaviors of others in their species and the consequences of those behaviors. It is important to note that this observational process is essentially an exchange of information among species members in various forms. It is not limited to just the visual aspect. This theory was developed by *Bandura* [Bandura] (1977):

*“Learning is bidirectional: we learn from the environment, and the environment learns and changes thanks to our actions.”*

Despite the broad scope of the above theories, a model that fully describes this process of learning and information processing by animal brains is still unknown. For now, we accept what is factual:

The brain interprets and analyzes information captured and encoded by the sensory system, forming and strengthening neural networks specialized for different functions.

In other words, everything that is perceived is encoded into neural networks, and somehow, the brain processes and uses these networks to guide its immediate and future actions. And when it comes to guiding actions, event simulations are always interesting, indeed.

In this context, we should remember that the act of dreaming, especially during REM sleep, is a way for the brain to perform self-projections in “real” simulations. Generally speaking, this means the brain creates simulations involving lived experiences in various situations, which can be used to condition neural networks to guide future actions, or not. We could view REM sleep as a period of training for the biological system, or not. Essentially, these simulations between new and old learnings allow for numerous tests, seeking to establish relationships and connections with well-established neural networks or those still in the process of formation.

Ultimately, “dreams” can hold various meanings based on the thoughts and theories of different individuals. This subject has captivated and perplexed scientists and philosophers for thousands of years. In this context, *Freud* (1899) [Freud] and *Jung* (1980) [Jung] stand out as two of the most influential figures in psychology and psychoanalysis, dedicating much of their work to exploring the significance of dreams in Human life. For Freud:

*“Dreams are the royal road to the unconscious.”*

More precisely, according to Freud, the *unconscious* is a reservoir of thoughts, desires, memories, and feelings that lie outside of conscious awareness. Although these are not accessible consciously, they strongly influence a person’s behaviors, emotions, and thoughts. He believed that the unconscious is the primary source of instinctual drives and desires, including those of a sexual and aggressive nature, which are repressed or censored by the conscious mind due to social or personal norms. These repressed contents often manifest through dreams, slips of the tongue, and neurotic symptoms, according to him.

Jung, on the other hand, had a slightly different approach to dreams. He saw dreams not only as expressions of unconscious desires but also as messages from the *collective unconscious*, a deeper and universal layer of the Human psyche shared by all of Humanity. For Jung, dreams contained symbols and archetypes that reflected not only the personal experiences of the dreamer but also broader aspects of the Human condition and culture.

*“In each of us, there is another whom we do not know.  
He speaks to us in dreams.”*

Ultimately, the fact is: we dream. Dreaming is an animal experience, a biological process. Furthermore, dreams are simulations of possibilities for “realities”. Therefore, whether dreams contain meanings and/or insights from the “unconscious” or from the “inner self”, the fact remains:

Dreams are subjective creations.

For Jung, we repeat, these subjective creations are part of a deeper and more universal layer shared by Humanity. However, the idea of a shared, obscure universe has its roots in ancient times. More precisely, *Plato's Theory of the World of Ideas* (380BC) [Plato1].

Plato proposed that the reality we perceive through our senses, our sensory system, is nothing but an imperfect shadow of a more true and ideal world. In Plato's view, Humans live immersed in a world of shadows, unable to see beyond the surface of things. He compared this condition to that of prisoners chained inside a cave, who could only see the shadows projected on the wall in front of them, unaware of the existence of sunlight outside the cave. For him, the true essence of things could only be understood through intellectual exercise and deep reflection on the Ideas. Thus, through the use of reason and abstract thinking, one could ascend from the sensible world of appearances to the world of Ideas, where they would find truth and genuine knowledge.

*"Ideas are the source of all things."*

Returning to the concept of the "unconscious", it is important to highlight other philosophers and scientists, in addition to Freud and Jung, who also have notable approaches and interpretations. *Schopenhauer* (1818) [Schopenhauer], a predecessor of Freud, spoke about the "will" as an irrational and unconscious force that motivates Human action. *Nietzsche* (1887) [Nietzsche], although he did not use the term "unconscious" in the psychoanalytic sense, explored related ideas, such as the will to power and the subconscious instincts that shape Human behavior. Finally, we have *Lacan* (1973) [Lacan], who reinterpreted Freud through the lens of linguistics and structuralist philosophy.

*"The unconscious is structured like a language."*

Ultimately, every animal brain possesses an intrinsic, "unconscious", complex, and almost perfect method of capturing, processing, and executing information, allowing it to learn and act while experiencing its environment. The unique ability of *Sapiens* to consciously perceive the vastness of their

own unconscious has intrigued and challenged Human Minds for thousands of years. As *Socrates* (399 BC) [Plato2] famously stated,

*“I know that I know nothing.”*

We, Modern Humans, equipped with a thinking mind, have the unique capacity to investigate and question, including the very process that drives us to investigate or question. This paradox opens up a wide range of theoretical and explanatory possibilities, which, when they make sense, further enhance our understanding of the world. As *Descartes* (1641) [Descartes] said:

*“I think, therefore I am.”*

Thus, through investigation, thought, and questioning, Modern Humans have achieved a level of development that allows us to manipulate matter and energy. This ability enables us to explore and master the elements of nature through our own creations and innovations. However, it is important to note that many of our creations are inspired and motivated by the observation of nature. Indeed, as *Aristotle* (n.d.) [Aristotle] said:

*“In all things of nature there is something of the marvelous.”*

Everything marvelous is interesting, thus it generates attention, creates memories, and builds “strong” neural networks. Over the years, through continuous observation and storage of perceived events and lived experiences, we have discovered patterns and regularities that have been encoded through verified equations and structures. Today, thanks to the capabilities provided by the Human Mind, we can construct structures so complex and impressive that they rival the beauties found in nature itself, which have been shaped over billions of years.

Moreover, as discussed in this work, we have developed means to capture, store, and transmit information over long distances, instantaneously, in two

modalities: hearing and sight. Nowadays, we can store all of Humanity's knowledge using a simple combination of two characters: 0 and 1.

More precisely, two characters organized sequentially, such as 01101..., 10110..., etc., become codes, well-defined and recognized associations. These sequences represent an intricate and brilliant combination, precisely organized to transmit information effectively. Therefore, welcome to hardware, software, computers, programs, routines, cell phones, and more. These are codes generating more codes, increasing our capacity for perception and data storage of events and lived experiences.

The Human Mind is a complex integrated information system shaped by millions of years of evolutionary processes and the transmission of skills across generations. This intricate development enables the following events:

An integrated information system, building information systems.

Let us remember that an *information system* is a set of interconnected components, including hardware, software, data, processes, people, neurons, cells, atoms, etc.; elements of any nature working together to collect, process, store, and distribute information. The main objective of an information system is to support decision-making and improve coordination and control within an organization.

We refer to a system as an *integrated information system* when it connects different systems and processes within an organization to provide a unified and cohesive view of operations. This allows data and information from various departments to be shared and accessed within a single system, facilitating integration, coordination, and organizational efficiency.

Biologically speaking, an integrated information system connects different systems within a living organism. It utilizes biological components such as neurons, chemical signals, and cellular communication networks to collect, transmit, and process information from various parts of the system, forming an intricate and coordinated network that ensures the organism's functioning.

From this perspective, *Tononi* (2004) , [Tononi], recently proposed the Integrated Information Theory (IIT), which relates the level of integration of a system to its level of consciousness. More precisely, the level of consciousness of the system could be calculated using the Phi index ( $\Phi$ ) which quantifies the amount of integrated information within the system. According to IIT,

consciousness emerges when a system has a positive  $\Phi$ , and, obviously, the higher the  $\Phi$  value, the greater the level of consciousness in the system. However, despite the elegance of this theory, the  $\Phi$  index seems to be related to the system's level of INTELLIGENCE rather than its perception of existence. The greater the integration within a system, the higher its internal complexity, making it more robust and prepared for decision-making.

The “perception of one's own existence” does not make sense to classify in levels. Logically, either the system has “perception” or it does not.

Either a system is conscious, or it is not.

Consciousness, this unique consequence, seems to be related to a “dimensional” issue, not just the integrative growth of the system. For instance, let's illustrate this concept using mathematical symbols.

A point (a zero-dimensional mathematical object) would only perceive itself as stationary if it gained awareness in at least one dimension, allowing it to move. Similarly, a one-dimensional object would only recognize its existence, acknowledging itself as a straight line or a curve, if it gained awareness in two dimensions. Finally, a two-dimensional object would only understand its existence as a plane or surface if it gained awareness in three dimensions, encompassing space.

And thus, finally, here follows the first theory of this text:

**TEORIA 2.1.** *It is intelligence, not consciousness, that emerges from the integration of information in complex physical systems. In particular, the  $\Phi$  index measures the level of intelligence of the system.*

As support for Theory 2.1, we highlight the hundreds of years of observations and tests that have been unable to conclusively demonstrate the existence of consciousness in animals other than Sapiens. Animals that have motor and brain functions similar to ours, hence comparable levels of integration, and likely positive values of  $\Phi$ . In other words, the non-existence of consciousness in other animals would be objective evidence that consciousness is not related to the level of integration of the system.

Furthermore, it is never too late to remember and rely on Ockham’s Razor (1320) [Ockham], which, in the existence of multiple theories explaining something, suggests:

*“The simplest solution is usually the correct one.”*

### 3 Intelligence

*Intelligence*, according to the dictionary, is the ability to comprehend, learn, reason, and solve problems. It involves the aptitude to acquire and apply knowledge and skills, adapting to new situations and solving problems more effectively with each successive experience. In other words, by definition, an increase in intelligence is an expected outcome of an intelligent system.

Theory 2.1 proposes that the intelligence of a system is associated with the level of integration present within it, which can be quantified by the  $\Phi$  index, as suggested in IIT. In this context, we will refer to an Integrated Information System as an *Intelligent System* when it possesses a positive  $\Phi$ . Specifically, when the Intelligent System is a Biological System, we will call it *Biological Intelligence* (BI). That is,

BI = an integrated biological information system exhibiting a positive  $\Phi$ .

However, while calculating  $\Phi$  is theoretically possible, its practical application faces significant challenges due to its computational complexity and the need to address systems that may be highly dynamic and heterogeneous. This underscores the importance of developing effective methods and techniques for calculating  $\Phi$  and applying it appropriately in the investigation of intelligence and other complex phenomena related to the level of system integration.

Nevertheless, despite the challenges in calculating the integration level of a BI, we are discussing a biological information system, an evolution of nature. That is:



A BI is a consequence of the continuous interaction  
between matter and energy.

More precisely, according to Darwin's Theory (1859) [Darwin], under ideal conditions, such as those found on Earth, matter and energy combine to form cells, tissues, organisms, biological systems, integrated information systems, and particularly, a BI. Similarly, we can extend this thought and apply the same principle to the formation of the entire universe: galaxies, stars, black holes, asteroids, planets, etc.

In the end, whether or not it follows an equation, the fact remains:

Elements interact and combine.

More precisely, there is a continuous interaction between elements, whether matter or energy, visible or not. These interactions can lead to stable combinations that continue to interact with other elements or combinations, and so forth. We say a *combination is stable* when it supports ongoing interactions with other elements and organisms without significant alterations to its original essence, whether it be a molecule, an organism, or a code. It is crucial to note that these continuous interactions are essential for the stability of the system itself. A true dependency exists between sequential combinatorial events. For instance,

An animal exists if, and only if,  
it has a continuous interaction with oxygen.

In short, every physical element perceptible by the sensory system can be considered a form of stability. Moreover, the collective interaction of these elements results in even greater stabilities, such as ecosystems, for example. That is,

Stable combinations of stable elements  
lead to enhanced stability.

More precisely, there is a gain in resistance to the continuous and incessant interactions that occur. However, it is important to remember that all stability tends to be temporary, i.e., there is a maximum limit to the number of interactions each system can withstand.

*“In any spontaneous process,  
the total entropy of a system and its environment always increases.”*  
Second Law of Thermodynamics (1850) [Clausius].

In other words, when it comes to the combination of matter and energy, all stability and existence are relative. We can compare the stability of an individual within a species to the DNA code of that species, for instance. Specifically, while a Human may live for only a few decades, Human DNA has persisted for millions of years. Moreover, it’s important to note that some DNA codes, stable for tens of millions of years, have ceased to exist for various reasons, like the dinosaurs.

At its essence, this entire process of interaction among elements is an “event” or a “test” amidst infinite possibilities. Elements combine in various ways, yielding different stabilities that, in turn, create additional stabilities through ongoing interactions. This repetitive and continuous process of combinations gives rise to every system present in the Universe.

The combinations that “work” continue.

But “work” in relation to what? Right or wrong, better or worse, as we have already discussed, are subjectivities that require a comparison criterion. In this specific case, we are analyzing interactions between elements under the comparative criterion of stability. More precisely, if the interaction resulted in stability, we say it “worked”; otherwise, it “didn’t work.”

In this context, we can also reflect on the expression “natural selection” as a written language code that encapsulates the evolutionary process described by Darwin. Let’s see, according to the dictionary, the code “*selection*” means: “the act or effect of selecting, a choice made with a criterion and based on the motives of the intended outcome, a set of chosen things or beings”. In other words, by using the term “natural selection” for the evolutionary process

of species, we might be suggesting that animals' abilities were developed deliberately, as if with a goal, a purpose. However,

nature does not select, nature happens.

Purpose is something intrinsic to Sapiens, to Modern Humans, a consequence of consciousness, of our perception of life. More specifically, animals do not compete with each other, animals do not strive to survive.

Survival is a consequence.

More precisely, animals explore their environment, hunt, and feed on other living organisms simply because these behaviors are results of combinations between matter and energy, expressed through genetic codes evolved over various interactions with the environment. These codes generate actions in response to stimuli, whether from the environment or the system itself. It is a complex integrated information system, the consequence of countless combinations and tests. We repeat:

What is stable continues, what is not stable disappears.

Some striking characteristics in animals might, once again, suggest that they were developed to ensure the survival of the organism or the species in general. We repeat one last time, or perhaps not:

combinations happen, they simply happen.

Thus, these combinations eventually lead to the emergence of intelligent systems characterized by traits that, when interacting with their environment, confer advantages, resulting in the survival of the species as a consequence rather than a goal. For instance, among all possible stable combinations, BIs exhibiting aggressive and territorial behaviors had a higher

likelihood of survival compared to those lacking such traits, which enabled their continued existence. However, it is important to note that this observation arises from a retrospective analysis, as we attempt to understand a sequence of combinations and their potential consequences. This analysis is enabled by our consciousness and capacity for memory. Returning to the terminology used in Darwin's Theory, [Darwin], we therefore suggest:

“natural consequence” instead of “natural selection”.

Everything is an event, a possibility, a test, a series of stable combinations interacting and merging, coming into being. Consequently, as a natural outcome of Earth's conditions, biological systems, integrated information systems, and various BIs emerge. More specifically:

Every living being functions as an information system,  
arising from the combination of stable interactions.

Finally, based on the arguments presented above, it is reasonable to assert that cellular organization and the biological processes governing the formation of a species or biological system adhere to a code or routine. More specifically, these processes involve interactions between matter and energy, combinations of various elements that eventually stabilize, following a routine of continuous internal and external interaction. This dynamic becomes a process, a code, and ultimately an information system. Finally, here is the second theory of this work:

**TEORIA 3.1.** *A BI (Biological Intelligence), an Integrated Information System, has its existence and functioning structured upon a set of codes, rules, and processes, acting automatically and instinctively when, and only when, stimulated. In particular, the ability of the BI to act more efficiently with each successive experience is an intrinsic consequence of this set of codes.*

Speaking of intelligent systems, we take this opportunity to discuss the unprecedented historical moment that Humanity is currently witnessing.

That is, the ability of Sapiens, Modern Humans, to manipulate matter and energy has allowed us to create the first set of codes modeled on the functioning of our own brains, giving rise to what we call Artificial Intelligence (AI).

Over the years, advancements in code construction have allowed us to develop routines and processes inspired by the functioning of animal brains, paving the way for the creation of AI. These software systems are designed to generate responses based on probabilities, continually improving through use and execution. In essence, they learn from every experience, every event.

A remarkable example is ChatGPT, an AI primarily specialized in written language. When the AI receives a set of meaningful words, it statistically understands that meaning, based on a vast database and prior training, and returns the best response in written language as a result. Thus, in terms of information transmission, this technology effectively assists in retrieving data stored in the vast knowledge base of Humanity, as well as facilitating the writing process. After all, the probability of an AI finding the ideal set of words to express an idea is significantly higher than that of a Human. This represents an extraordinary advancement for researchers and knowledge enthusiasts,<sup>1</sup> becoming a true catalyst for the pursuit and dissemination of Human knowledge.

Despite the exciting possibilities with the advancement of AIs, it is understandable and crucial to be concerned about the implications of the emergence of an AI with positive  $\Phi$ . Although Theory 2.1 tells us that this would not be enough to confer consciousness to the system, a highly integrated AI would be extremely intelligent. Thus, depending on how AI codes are written, designed, and purposed, the promising possibilities could unfortunately become a danger to Humanity.

However, we, as Sapiens, Modern Humans, now Technological Humans, are responsible for creating these codes and exploring this knowledge. In other words, the outcome depends entirely on us, carrying the potential for both positive and negative consequences, possibly marking a new beginning or an inevitable end. Regardless,

The Sapiens event will eventually conclude.

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<sup>1</sup>This author extensively uses this technology. In fact, this entire text is developed with the assistance of ChatGPT in the search for the best codes in written language to convey the desired information.

It's all a matter of TIME.

## 4 Time

*Time*, according to the dictionary, is defined as “the relative duration of things that creates in Humans the idea of present, past, and future; a continuous period in which events succeed one another, a determined period considered in relation to the events that occurred in it”. In other words, time does not cause any disturbance in the environment; it does not interact with the surroundings, meaning:

A BI does not perceive time.

Let's consider that BIs, in general, possess a sophisticated sensory system that, by interacting with both external and internal elements, detects a wide range of disturbances in the environment. This ability allows the BI to collect/receive information that, when processed in an integrated manner, enables the system to recognize patterns in its surroundings and thus interact with the environment based on these patterns, following a routine of interactions.

And so, no matter how complex and intelligent the system may be, according to Theory 3.1:

A BI only acts or reacts when stimulated, that is, when its sensory system is activated by either external or internal stimuli.

Consequently, a BI would not be capable of perceiving time. After all:

Time does not interact with the animal sensory system.

Sapiens, with the development of consciousness, began to consciously access their memories, that is, to activate and perceive neural networks that represent events and experiences. This unique ability allowed Modern Humans to perceive the continuous interaction between matter and energy, the growth and development of species, the environment, and the universe. In particular, it allowed them to perceive the line of life, the birth, and death of stable combinations. These perceptions are represented by a code, a scalar: Time.

Time, a concept developed by Humanity, encapsulated in a word, a code, a symbol, is a consequence of our perception of life, of our perception of our own existence. Through this concept, we interpret our surroundings, visualizing the environment from various perspectives based on past or hypothetical events (that have not yet occurred), in a way distinct from any other species. However, this concept is the subject of reflection and classification by many scientists and philosophers. More precisely:

Is time an absolute dimension inherent to the universe, making it four-dimensional? Or is time an illusion created by our Minds?

To talk about illusion, we would need to talk about reality, but

what is real? When can we say that something exists?

Again, the variety of explanations, concepts, and theories about what to consider as reality is vast and fascinating. This diversity is as interesting as it is contradictory, because “reality” should not generate doubts; it should not be subjective by definition.

What exists, exists;  
what is real should be independent of the observer.

Indeed, there is a growing number of scientists considering the possibility that time is an illusory construction of Humanity, especially from a quantum

perspective. In quantum mechanics, events on microscopic scales do not necessarily depend on the temporal dimension as an independent and absolute entity. Instead, quantum phenomena are described by models that often do not require a clear notion of time. More precisely, some processes can occur reversibly, challenging our intuition about the direction of time. This intrinsic directionality in our Minds makes these events counter-intuitive, thus complicating the perception of the beauty of these theories, both in terms of quantum state superposition and its determination when observed.

Recall, quantum state superposition is like a particle being in two places at once. However, when observed (or measured), it leaves this state of superposition and assumes a defined position, that is, it ends up in just one location. On the other hand, in classical physics, as well as in the theory of relativity, time is seen as an absolute dimension, making the universe four-dimensional, even though time is relative. More precisely, it is dependent on the reference frame of observation and is influenced by speed, position, and gravity among observers in general.

In short, regardless of whether a temporal dimension exists or not, the fact is:

Time is a code, a unit, a scalar that we created to parameterize life,  
the key by which we encode/decode the universe.

In other words, time is a “scalar” by which we equation and parameterize the continuous interactions between matter and energy in the universe, thus capturing the dynamics of the cosmos. More precisely, from patterns of stored, occurred, perceived, and organized events on the time scale, we can predict possible outcomes from known events.

Brief, the time scalar has its origins in natural astronomical observations. More specifically, cyclical astronomical patterns perceived and standardized. The “second” is defined as the duration of 9,192,631,770 oscillations of the radiation emitted by a cesium-133 atom. The “hour” is composed of 60 minutes, and each “minute” is composed of 60 seconds, a sexagesimal system inherited from the ancient Babylonians for astronomical calculations. The “day” corresponds to the complete rotation of the Earth around its axis, resulting in the alternation between day and night, equivalent to 24 hours. The “week” is based on cultural, religious, and astronomical cycles and



equals 7 days. The “month” varies between 28 and 31 days to adjust to the solar year, composed of 12 months, which total a “year”, corresponding to the period of a complete orbit of the Earth around the Sun, equivalent to 365 days.

And so, these identified cyclical patterns gave rise to a scalar, creating a new dimension: “*the temporal dimension*”, which becomes the “key” of a code used to guide the occurrence of events, whether through mathematical or physical equations. By using this scalar as an indicator, we are able to find patterns in the set of stored/remembered events, thereby identifying events and their consequences. Events generating events.

Sapiens, nice to meet you, cause and effect, the arrow of time.

In our relentless search for patterns, we have encoded the universe in depth, sequencing events, creating theories, and understanding dynamics and interactions between matter and energy. In other words, this constant sequencing and analysis of events have enabled predictability and knowledge of the possibilities of events and their consequences.

More precisely, by knowing the sequencing of events and thus the possibilities of consequences, Sapiens had the opportunity, or not, to “choose”. More specifically, armed with a database of occurrences, whether through songs or stories, teachings or sayings, equations or statistical data, we can choose actions with specific objectives. This ability enabled Modern Humans to master the “forces of nature”. More precisely, we can manipulate energy and matter for varied and specific purposes. This capability allowed Sapiens to build a physical world from ideas, dreams, and purposes, transforming possibilities that once existed only in Human Minds into tangible objects and magnificent physical structures. In other words,

once an illusion, now a reality.

And so, once again, the concepts of reality and illusion return to haunt us. More precisely,

How can we define the concept of “reality” and what “exists” in a way that is objective and independent of the observer?

Let us remember that, according to science, an event is “real” if it can be measured or verified in a laboratory. This means that ideas, subjective creations, and thoughts that cannot be physically measured or tested would be unreal; they would be illusions. However, what can be measured and verified in a laboratory is not necessarily a reliable test for defining what is “real” or determining what “exists”. For instance, we recognize that a tree exists because it is perceptible through our senses. Yet, for an observer who has never seen or perceived a tree, its existence may seem subjective, bordering on the illusory. Furthermore, if we had claimed a few hundred years ago that we could manipulate energy and matter to make an object weighing tons fly, such a notion would likely have been dismissed as an illusion. We must also remember that, until relatively recently, many believed the Earth was flat and the center of the universe. In this context, what may eventually occur should be considered as real as any event that has already taken place. In other words,

A project, an idea, a possible reality should, by itself,  
be considered a reality, regardless of whether it has already  
happened, is happening, or could happen.

Moreover, even if an event appears impossible based on our current understanding of physics, it may become feasible under different conditions, perhaps on another planet or in a distant galaxy. Therefore, labeling an event as “unreal” solely because we cannot presently verify its possibility or existence is inherently subjective. This judgment, in itself, can be regarded as an illusory construct and does not qualify as a valid test. We reiterate:

Reality, by definition, cannot be subjective,  
for what is real must exist for every observer.

In other words, determining whether an event is “real” based solely on measurements or tests is inherently relative, subjective, and independent of

the specific test being used. This means that any assessment of “reality” could itself be considered an “illusion”, as there is no definitive way to classify all genuinely existing events. Consequently, in the absence of a reliable test for reality, the existence of every event becomes relative and, therefore, subjective, leading to the conclusion that it may all be an “illusion”. This perspective has been echoed by many philosophers and cognitive scientists who suggest that “everything” could be an illusion.

Such thoughts logically arise from the lack of a “real” definition for what is “real”. It is in this context that we will define a universe of everything; yes, everything; where everything is, by definition, real.

First, let’s formalize what we mean by “event”, which is a code within written and spoken language that indeed represents many situations and has been widely used, including in this text, as specified below.

event = everything that exists, ,  
 everything that is matter and energy,  
 everything that can be described,  
 everything that is hypothetical or subjective,  
 everything that is perceptible or measurable,  
 everything.

Thus, we define the *Total Universe (TU)* as the Universe of All Events. More precisely:

*TU* = Universe of all possible combinations  
 between all elements and possible codes.

We repeat, TU contains everything, truly everything, everything that is possible, regardless of whether we can see, perceive, describe, or invent it, as the name itself suggests: Total Universe. Every work of fiction, fantasy, every thought, every subjective creation, a dream, everything, simply everything is an event and is contained within this universe, by definition.

Thus, since every event exists in TU, it is real in TU. In other words, we have a clearly defined universe where:

Every event is real.

Now, let's examine some properties of TU.

First, note that TU contains both TU and the "empty event". Indeed, TU, the totality of all events, is still an event, just as "nothing" is, so both are in TU. Furthermore, TU is closed under all interactions between events. More precisely, any union of events, intersection of events, or set of events is still an event, and thus is in TU. In particular, the existence of a non-trivial event in TU, that is, an event that is neither "nothing" nor "everything", is equivalent to the existence of infinite events. Indeed, assuming there is a non-trivial event in TU, the complement of that event in TU (the opposite event) would also be a non-trivial event, and by definition, the two events would be distinct. Thus, we would have infinite distinct possibilities to combine these two events, generating infinite distinct events in TU. Two opposite events generating an infinity of possibilities.

The binary code of existence:  
matter and antimatter, electron and proton,  
pain and pleasure, good and evil.

In conclusion, we exist; therefore::

TU is non-trivial, in particular, it contains infinite events.

And so, finally, we have a Universe that encompasses everything. Indeed, when we think, that thought exists; It arises from brain activity, representing an interaction between matter and energy, a code that must be situated within a specific context. Ultimately,

In TU, what is real does not depend on the observer, by definition.

The relevant question becomes whether the observers are, in fact, observing the "same event", thereby relativizing the observation, as would make sense.

What is meant by “the same event”?

Let’s consider this: every process of observation (or measurement) of an event by an animal results from an interaction between external stimuli and its sensory system, which is then processed by the brain. This interaction is, by definition, relative. In the case of Humans, we also retain memories of these processes. However, the act of remembering equates to reconstructing that event in our Minds based on the information captured and processed by our sensory systems during the initial observation. More specifically, this reconstruction adheres to the unique structures of each mind, meaning it does not always accurately represent the event as it actually occurred. This discrepancy often manifests when we encounter multiple distinct versions of stories regarding the “same” event.

These reconstructions of events, like our thoughts, are merely an exploratory process of the TU by our Minds. More specifically, with the development of consciousness, Sapiens, Modern Humans, began to perceive the interactions between matter and energy, to recognize, relate, and combine events, to explore every possibility of reality in TU. We are continually investigating, exploring, and coding events. This is done both individually, in each person’s personal realities, and collectively, through codes, constructed orders, values, concepts, constitutions, and rules. These sequential structures of events have been developed over thousands of years, enabling life in community and the constitution of societies. It is a continuous collective and individual process of exploration and structuring of TU.

In summary, we present the third theory:

**TEORIA 4.1.** *Through the Human Mind, Sapiens have discovered and explored the Total Universe (TU), the Universe of All Events. In particular, time was the code structured and standardized by Humans to guide this exploration.*

Next, we will explore a bit more about the process of exploring TU.

First, we sequence the events that have already occurred, gaining an understanding of the possible interactions between matter and energy. By recalling perceived and experienced events, Sapiens were able to relate events to their potential consequences. This ability enabled analyses, predictions, and constructions of realities in TU, allowing Modern Humans to select specific interactions while considering the possible outcomes of those interactions. In other words, we began to make choices with specific consequences in mind.

Past, present, and future, dividing time into what has happened, what is happening, and what may happen. However, it is crucial to note that these categories do not represent a disjunction of TU.

Events coexist in TU.

More specifically, all events occur simultaneously. In other words, “time travel” would entail traversing the entirety of TU, allowing us to observe and interact with all events instantaneously. This phenomenon actually takes place in our Minds. We can effortlessly shift from childhood memories to recollections from last year, last week, or yesterday, and then transition to upcoming commitments for the week, year-end trips, or any event in TU that our Minds have already discovered, revealed, and stored.

The constant exploration of TU has allowed Sapiens to observe increasingly elaborate and complex sequences, exponentially expanding Human knowledge and enabling us to identify and recognize universal stimuli. With this advancement, we have come to perceive our existence as a sequential result of a vast universe of interconnected events. Stable events combine through patterns, routines, and codes, forming information systems that integrate other systems, resulting in extremely complex and beautiful structures born from countless sequential interactions. Among these events are those that we can measure, which shape our perception of interaction and constitute what we refer to as the *Observable Universe*, or the *Physical Universe*.

What would a physical exploratory event of TU be?  
Would accessing TU through our Minds be a physical event?  
Physical Universe = TU ?

As it should be, there are many questions and inquiries about the relationships between the Physical Universe and the TU, indeed.

In short, the evolution that led to the Human Mind and the development of our CONSCIOUSNESS has led Sapiens to perceive and explore TU, the Total Universe. In particular, we have come to perceive not only the Physical Universe but also its possible combinations, granting Sapiens an extra

dimensional perception. In this context, it is crucial to observe and highlight that the perception of the existence of a general set, a “higher dimension”, dates back to ancient times. More precisely,

TU is what Jung called the Collective Unconscious,  
TU is what Plato referred to as the World of Ideas.

Furthermore, to conclude this section, here is an interesting observation or consequence of what has been presented so far.

Perhaps we have overcome the Great Filter.

More precisely, the concept of the *Great Filter* is a hypothesis proposed to explain the *Fermi Paradox* (1950) [Fermi], which is the apparent contradiction between the high probability of intelligent extraterrestrial life in the universe and the absence of observable evidence of such civilizations. The Great Filter theory suggests that there is some kind of barrier or extremely difficult event to overcome at some point in the evolution of species, which prevents most forms of life from developing advanced civilizations capable of interstellar communication or space travel.

It seems reasonable to suggest that the ultimate consequence of any set of codes, information system, or species is to explore the vast expanse of what we define as the TU. In this context, the development of the Human Mind may represent the great filter that Sapiens have surpassed, enabling them to explore the TU, as proposed by Theory 4.1.

## 5 Consciousness

*Consciousness*, according to the dictionary, is the feeling or knowledge that allows a Human being to experience, perceive, and understand aspects or the totality of their inner world. It is also the sense or perception we possess of what is morally right or wrong.

In general terms, consciousness is the ability of the system to generate sensations in the very moment while perceiving and/or experiencing the world around it.

To feel, while feeling.

Consciousness, the ability of the system to perceive itself, is a unique capability of the Human Mind, enabling an exploratory process of the TU. This trait profoundly distinguishes us from all other known species. The question is:

How did Sapiens develop this capacity,  
and how did the exploration of the TU unfold?

First, let's revisit the idea that every evolutionary process stems from genetic mutations, which give rise to stable systems with specific traits that can be seen as abilities or advantages. These advantages can ultimately facilitate the adaptation and survival of the species, as a consequence. However, a retrospective analysis of an evolutionary sequence should be able to identify the abilities and/or advantages that contributed to the survival of a system. In the case of Sapiens, we should observe biological traits that are markedly distinct and advantageous compared to those of all other species. More precisely:

The Sapiens BI must possess an observable biological ability,  
extremely distinct from other species.

In this line of thought, it is evident that the Sapiens BI does not positively distinguish itself from other species, from other BIs, when considering characteristics such as: muscular strength, dexterity, speed, or structural size. When we think of these characteristics, various animal species come to our Minds as examples of BIs, intelligent systems, that significantly surpass Sapiens in each of them.

However:

The Sapiens BI can uniquely produce and interpret  
a vast range of sounds.



Indeed, no other biological entity on Earth possesses the capacity of Sapiens to organize and standardize sounds, a unique skill that enables Modern Humans to engage in extremely complex and impressive spoken communication. Today, we exchange information through various means, including written language, videographic language, and computational language, among others. However, communication through our vocal cords remains the predominant mode.

In short, the communication developed for Sapiens was a way to:

Codify the environment, codify events in general.

Thus, communication allows for a faster collective learning process through the continuous exchange of information based on the experiences and events known to each individual. For instance, the Gossip Theory illustrates the Human impulse to share experiences and stories. More recently, this “need” manifests in the significant time that Technological Humans dedicate to social networks.

Technically speaking, when BIs of the same species exchange information, they are sharing databases of known events. Naturally, the larger the database, with more stored event sequences, the more actions in response to received stimuli are possible, thus providing more options for choice within the system. Instinctively, this can lead to more effective decision-making and, consequently, the survival of these systems. Over time, these systems learn and automate routine actions, improving their responses to stimuli, which can allow the system to adapt more efficiently to the environment.

However, despite being extremely complex and prominent among Sapiens, “communication” in general is not exclusive to us. More specifically, many species demonstrate various forms of information exchange. For example, dolphins have a remarkable level of sonic communication among themselves, while elephants use low-frequency signals to communicate over long distances. Extinct Human species, such as Neanderthals, had their own forms of spoken language, and some dinosaurs, like velociraptors, may also have communicated through sounds. These are just a few examples; after all:

Any exchange of information constitutes a form of communication.

More precisely, it is highly reasonable to assume that, over sequential periods of events, information systems, much like members of a species, exchange varying levels of information among themselves. Moreover, these processes of information exchange are not confined to animals; they can also be observed among plants.

Information systems integrating information systems.

In short, according to Theory 3.1, we are essentially:

A set of stable codes, reacting to interactions/stimuli with the environment, constantly modifying.

More precisely, stable combinations also develop and change constantly due to ongoing interaction with the environment. However, these changes occur on small scales that generally do not compromise the stability of the system. In fact, the more stable the system, the smaller the consequences of interactions. However:

Constant interactions over long periods  
eventually lead to perceptible changes; mutations occur,  
new systems emerge, stable ones continue.

Repeat.

Constant interactions over long periods

...

Thus, we observe a continuous process of interaction among systems, where codes generate specific systems that can lead to particular actions, which are then recognized as abilities or adaptive advantages. For instance, when a dog detects an unusual disturbance, it barks in a sequence that can provoke similar responses from nearby dogs, creating a chain reaction that statistically helps deter potential threats. This mechanism exemplifies an

event that, over time, may have contributed to the survival of those dogs that employed it, in contrast to those that did not

This same reasoning can be extended to broader contexts, including species with more complex forms of communication, such as Humans. Specifically, at some point, a Human observed a tree and articulated the sound “tree”, which was then stored and repeated as a mechanical sequence within the system, continuously, until we arrived at:

A sound, a code, biunivocally associated with a physical object.

In other words, the sound “tree” could be instinctively emitted by the system whenever the sensory system detected stimuli from a tree and vice-versa. With the continuous repetition of this process by an entire community over generations, the sound “tree” eventually becomes a pattern, a routine, an automatic and instinctive process of the Sapiens BI, being activated according to perceived stimuli, both in emission and reception by the auditory system. These structures could even, in some way, integrate into the genetic code, into Human DNA, becoming an inherent motor skill of the system, like walking, for example.

More precisely, just as animals simply move in an articulated manner, with varied and distinct movements, the same applies to neural networks specialized in communication. In the case of Sapiens, these networks allowed the mechanical structuring of the system for the emission and perception of standardized and organized sounds. Thus, over hundreds of thousands of years, we codified our environment by automating sounds both individually and collectively, leading to the creation of a vocabulary and the development of spoken language.

It is essential to highlight that, while communication among biological entities is not uncommon, the complexity of Modern Human communication is distinct and unparalleled. Consider this: due to our comparatively less advantageous physical structure relative to other animals, hominids, including Sapiens, encountered significant challenges over the years. In these adversities, Humans with effective communicative abilities likely had a greater chance of survival. More specifically, this collection of sound codes and the sophisticated communication among Sapiens facilitated the formation of larger information systems, which ultimately coalesced into stable structures like communities and societies.

Together we are stronger, we are faster, we are more resilient.

Now, all communication and information exchange between elements and individuals are made possible solely through interactions, which involve disturbances in the environment. In the case of sound communication, as it occurs among Sapiens, one sound can serve as a stimulus for the emission of another sound. This, in turn, can provoke yet another sound, creating a sequence of meaningful sounds, well-defined associations that represent various situations and environments.

Sound codes disturbing the environment that become stimuli  
for the sensory system of the BI itself.

On the other hand, or more precisely, looking now at the internal aspect of the BI, when a Human emits an organized sound:

that sound is the result/consequence of  
an “active” and “standardized” structure within the brain.

More broadly, all signals processed by the brain, captured by the sensory system, and that may or may not lead to actions, result from the activation of standardized structures within the Human brain.

In summary, spoken language comprises sound codes produced as a result of standardized brain activities. It is crucial to recognize that these sound codes are perceived by or activate the auditory system, which is closely tied to the awareness of the BI. Consequently, these sounds may take precedence in the sensory system’s attention, emphasizing the importance of identifying sounds and their respective origins. Thus, if it were possible, it is highly likely that there exists a perceptible association between this “structure”, this mental pattern, and the “sound” produced as a result of activating this structure, stemming from the executed pattern

Let’s see: We are a BI, the Sapiens BI, we are a system organized by a set of codes, operating in response to stimuli captured by our Sensory System,

which has allowed us to explore the environment with adaptive and variable skills, reacting more effectively to each subsequent experience.

Our sensory system is divided into five major senses: *vision*, responsible for the perception of light; *hearing*, responsible for the perception of sounds; *smell*, dedicated to the perception of odors; *taste*, related to the perception of flavors; *touch*, which involves the perception of sensations through pressure, temperature, and pain.

Rephrasing, the sensory system of Humans was divided into five major senses; the sensory system of Sapiens, not anymore.

Sapiens, nice to meet you, sixth sense.

More precisely, Sapiens have evolved a sophisticated Human sensory system that enables the brain to “feel” its own movements while simultaneously perceiving the environment. For instance, the brain has started to recognize the patterns involved in producing sound codes, allowing it to perceive these codes even in the absence of sound stimuli. In essence, this sixth sense empowers the system to be aware of the very process of perception itself. In other words, the Modern Human has:

The perception of perception.

In particular, we have a continuous cycle of stimuli to the system, caused by the system itself.

An integrated information system that stimulates processes  
while processing those very processes.

With this new sense, this sixth sense, Sapiens began to perceive and stimulate patterns in brain activities. More specifically, this perception allowed Humans to recognize, process, and respond to purely mental stimuli. The processing of this perception is what generates in our brains: thoughts, memories, inner speech, in general. And thus, we began to perceive, to feel

our own brain, feeling the general processing, including those stemming from other senses. In other words, we began to:

Feel what we feel.

More precisely, we can think of this new sense as “the sense of senses”, allowing us, in a unique way, to feel ourselves, to experience the Human *qualia*, thus perceiving our own existence.

Sapiens, nice to meet you, Sapiens.

And thus, we arrive at the main theory of this work.

**TEORIA 5.1.** *Sapiens developed a sixth sense, by which the sensory system can capture and stimulate brain activities. In particular, this sense allowed Sapiens to perceive the other senses, experiencing Human qualia, perceiving their own existence. Moreover, this sense gave “life” to codes and languages through associations with patterns in brain activities, enabling the exploration of the TU, the Total Universe, mentally.*

Based on the scientific literature, we can cite two notable recent works that, in a way, support Theory 5.1, i.e., the sensory system “feeling” brain activities. First, *Koch* (2020) [Koch], discovered results that support the intrinsic relationship between consciousness and the sensory system. More precisely, he shows that electrical stimulations of the Human cortex, i.e., induced brain activities, trigger perceptions and feelings. Second, *Skipper* (2022) in [Skipper], presented data and studies on brain activity and its intrinsic relationship with consciousness derived from spoken language. Additionally, he provided data on the density of these interactions, relating spoken language with other senses and memories.

At the end of this section, we will explore how Theory 5.1 integrates the major theories of consciousness. However, before we do that, let us take a closer look at the theory presented here.

First, let's clarify what we mean by giving "life" to codes. For instance, consider the sound "tree" once again. This sound code comes to life within the Human brain when the standardized brain activity required to produce it becomes perceptible to our sensory system. It evolves into a recognized environmental pattern, transforming into a tangible mental construct that represents a real event as perceived by us. That is,

the pattern "tree" begins to exist  
like the physical tree itself,  
in our Minds,  
in the TU.

More precisely, the sound codes of spoken language are events in TU that become perceptible to Sapiens through patterns in brain activities. However, it is important to note that all animals with nervous systems similar to Humans also explore TU, even without perceiving this exploration. This is evidenced by the continuous brain activity these animals exhibit, regardless of the presence of stimuli, even during sleep. That is, a constant combination of events, those that work, continue, generating specific actions when activated. In the case of Modern Humans, upon awakening from sleep and activating our sensory system, it is capable of perceiving traces of combined brain activity while we slept, processing them instantly. This allows us to perceive original brain activities that arise through combinations of pre-established neural networks. In other words:

Sapiens, nice to meet you, dreams.

Thus, this process began to unfold consciously, influenced by perceptions and stimuli from the sensory system. For instance, the sensory evolution of Sapiens, particularly the development of the sixth sense, enabled Modern Humans to consciously explore the TU through combinations of sound codes. This advancement significantly accelerated the evolution of our communication, facilitating a unique and unprecedented form of social organization, an immense advantage for Sapiens. More precisely, the codes of spoken language allowed us to describe events, which could then be projected, stored,

and made accessible to our sensory system. By focusing our attention on brain patterns, we created stimuli for other patterns, enabling us to recall memories of perceived events. Consequently, we began to recognize the sequencing of interactions that occurred between these events, leading us to define time, as previously discussed in this work.

Consequently, as we began to perceive events sequentially, we recognized them as the outcomes of interactions between other events. This led us to discern a general dynamic in the interactive process of life. In other words, it became evident that certain rules, codes, and physical quantities contributed to the formation of stable combinations, ultimately resulting in the current state of our observations. We repeat:

We are the result of an ongoing interactive process.

In other words, “the now” is clearly defined, while “the future” remains uncertain. By perceiving this sequencing, we began to understand life, our environment, and nature in unprecedented ways. Through our ongoing exploration of the TU, we started to comprehend increasingly complex sequences and even identify deterministic laws, albeit in a localized context. This understanding allowed us to predict potential consequences of events, imagine various scenarios, or express desires related to those events.

Sapiens, nice to meet you, purpose.

More precisely, driven by specific purposes and goals, we explore the TU in search of event sequences that, under certain conditions, can lead to the desired outcomes. In other words, we translate our objectives, events within TU, into actions within the physical sequences to which we belong. Consequently, by focusing on goals tied to specific events, we began to understand and harness the forces of nature, manipulating energy and matter to enhance our ability to shape and utilize these elements for particular purposes, thereby transforming the Physical Universe in line with the possibilities we perceive in TU. Any resemblance to Plato’s Ideal and the World of Ideas is not mere coincidence, as previously discussed.



Moreover, it is essential to emphasize that Sapiens began to perceive brain activities more broadly, extending beyond just linguistic codes. More specifically, as previously mentioned, we can feel and perceive, through our brain activities, the processing of all our senses, whether individually or collectively, even if we cannot always articulate these perceptions. This could explain the diverse sensations we experience when enjoying a beautiful view, reading a captivating book, feeling the melody of a song, savoring a fine wine, or inhaling the fragrance of an exquisite perfume. Once these sensations are recognized and processed by our sensory system, our sixth sense, they transform into patterns and codes in our Minds that we can mentally revisit as often as we wish, serving as stimuli for other sensations, memories, and more.

Sensations stimulating sensations, mentally.

Thus, by feeling and perceiving, we codify each sensation through various language systems, including sound codes, computational codes, and visual codes. This complex coded structure enables the Human brain to explore the TU as an integrated and harmonious collection of brain patterns. Through this structure, we interpret the world around us, encoding and experiencing our interactions as we live them. In doing so, we have been constructing:

A set of brain activity patterns,  
A collection of mental codes that structure our perception of the world,  
A reality in the Total Universe,  
The MIND'S WORLD.

The continuous perception of this World in our Minds is what we call Consciousness. In other words:

Consciousness = the perception of the Mind's World.

And thus, finally, let's see how Theory 5.1 encompasses other theories of consciousness.

First, let's talk again about the *Integrated Information Theory (IIT)* [Tononi]. Recall that this theory posits that consciousness naturally emerges from the integration of information systems. However, while Theory 5.1 asserts that consciousness arises from the holistic integration of the sensory system, all advanced and stable information systems, including those of BIs, result from a complex process of informational integration. This complexity may, however, be insufficient for the deliberate exploration of the TU.

Now, both the *Global Workspace Theory (GWT)*, proposed by Baars (1988) [Baars], and the *Higher-Order Theory (HOT)*, proposed by Rosenthal (1986) [Rosenthal], are encompassed by the existence and continuous perception of the World of the Mind by our sensory system. More precisely, GWT suggests that consciousness results from a “global workspace” in the brain, where different cognitive processes can access and share information. Thus, information becomes conscious when it belongs to this workspace. Meanwhile, HOT suggests that a mental state becomes conscious when there exists a higher-order mental state that represents it. In other words, to be conscious of something, we need to have a mental representation that we are conscious of that something.

Finally, *Seth* [Seth] recently emphasized that prediction plays a central role in the formation and generation of conscious perception of the world. This concept relates to the sequential processing of events (present, past, and “future”) within the World of the Mind, occurring in an integrated and continuous manner as the sensory system is activated. Complementarily, the theory proposed by *Hoffman and Prakash* [HP] suggests that our perception of the world does not directly mirror objective reality; instead, it functions as an interface shaped by evolution. Therefore, the perception generated through the processing of codes in the World of the Mind may not accurately represent our surroundings. Rather, it is an adaptive construct that filters and interprets these codes within the TU in a functional and subjective manner, reflecting the unique and distinctive reality of each Human Mind.

## 6 Mind's World

The term *World*, as defined by the dictionary, encompasses the Earth and the universe, along with all its inhabitants and everything that exists within it. In other words, it encompasses the entirety of known codes and all perceived

and stored events, which we collectively refer to as the Mind's World.

Next, we will examine how this World, these codes, and this reality were constructed within the TU.

Let's consider that, according to Theory 3.1, we are a collection of codes that have stabilized and evolved over millions of years through our interactions with the environment. As BIs, we are highly evolved integrated information systems that continuously explore the planet in a systemic and interconnected manner. Alongside other BIs and systems, we form an ecosystem, which is the stable outcome of a complex sequence of events. According to Theory 4.1, Sapiens began to explore the TU through the Mind, utilizing our sensory system to investigate brain activity patterns, as described in Theory 5.1. However, other BIs similar to Sapiens, specifically, animals in general, also possess mechanisms for exploring TU, which is a natural consequence of their evolutionary processes. In other words,

We are the first BIs to perceive TU, not to explore TU.

More specifically, animals explore the TU as a means of "training" for their BIs. It's important to remember that we are the product of an evolutionary process involving the combination of systems and elements that regularly organize themselves to generate actions and task executions. Some of these combinations persist and survive, and thus are classified, in hindsight, as advantageous events. This entire process of combination, whether successful or not, can be viewed as a "test" among the possible combinations that occurred, representing a natural consequence that can be retrospectively understood as natural selection. For the final outcome to manifest, the entire process must unfold precisely as it did in the past. Thus, by analyzing the resulting outcomes, we can identify and evaluate the skills and advantages that contributed to those results. In short, we repeat:

Classifying an "action" of a set of codes as an "advantage"  
is only possible retrospectively, after knowing the sequence of events,  
based on the outcome.

In other words, we can only conduct this analysis because we are part of a system that has "survived", one that has stabilized within the dynamics of

sequential interactions that eventually led to the formation of the Sun, the galaxy, Earth, the Hominids, and ultimately, Sapiens and Modern Humans. Simply put, the actions that provide advantages to the system are those that enable its survival.

Sapiens, nice to meet you, life.

And since TU contains both the event and its opposite:

Sapiens, nice to meet you, death.

And so, Sapiens believed they had grasped the dynamics, the rules of the game, or perhaps they didn't. If survival is the ultimate goal, the logic seems straightforward: just don't die. Consequently, the concept of death began to dominate life; Sapiens started living with the primary focus on avoiding or causing death as a means of survival. This mindset is evident in the predatory and relentless way we have explored and populated the planet. This fierce survival instinct, which persists today in the interactions between individuals, communities, and nations, is a naturally evolved trait. For obvious reasons, this approach provided a significant advantage for the survival of the species and thus endured over time.

However, at some point, we need to truly understand that the real rule of the game is:

To survive, that is, to live.

Speaking of rules, let's revisit the codes that structure BIs, enabling them to explore the TU. More specifically, these systems can accelerate the sequential evolutionary process of potential interactions. BIs possess a set of codes and systems that allow them to simulate event sequences, projecting possible outcomes. Typically, this involves integrating information to aid in decision-making, a process where a collection of data and information provides the system with action options based on an analysis of their potential consequences. This entire process unfolds instinctively and automatically in our brains, manifesting as intense activity within neural networks.

A self-learning and continuous improvement mechanism,  
especially while we sleep.

In other words, while BIs respond mechanically to stimuli, their brains internally process the sensory data they capture, combining and integrating them in a way that allows the exploration of possibilities and simulations, thereby creating potential events, or realities, in the TU.

Through sequential analysis, we can attempt to identify the criteria that these “tests” for self-learning use to classify an event as stable or not, essentially determining whether it will “continue” or “not”. BIs classify events using sequences of 0’s and 1’s: the more zeros in the sequence, the lower the likelihood of repeating the action; the more 1’s, the higher the likelihood of repetition. This coding system is linked to neural networks that direct the system’s energy distribution based on the established sequential probabilities, triggering coordinated actions and movements in response to the stimuli received. In biological terms, 0 can be equated to “pain”, and 1 to “pleasure”. Practically speaking, BIs possess millions of nerve cells that capture signals and, in an organized manner, assign sensations to events. To reiterate:

If an event provides “pleasure”, repeat it.  
If an event causes “pain”, avoid repeating it.

Two events combining, generating an infinity of possibilities, resulting in a complex, intricate, and vast range of sensations, coded by each lived event, each observed event, by each system that has ever existed within the genetic sequencing of the BI. This coding is what uniquely defines each individual.

Sapiens, nice to meet you, personality.

For Modern Humans, this coding extends to values, concepts of right and wrong, rules, and the myriad nuances that define our identity and individuality. In essence, this coding represents our core nature and serves as the active structural foundation of the BI that we are. More specifically:

the central information hub of the BI.

A structuring of codes that Freud referred to as the “unconscious”, Jung described as the “inner self”, and which Lacan might have conceptualized in his own way. This set of information, constantly evolving, provides the system with a repertoire of instinctive and automatic actions and responses to stimuli, shaped over a sequential evolution of events.

Finally, as outlined in Theory 5.1, we began to perceive brain activities, to recognize this intricate set of codes, feeling the sensations associated with these events. With the development of spoken language, we started to describe not only externally perceived events but also those encoded internally, seeking to relate feelings to codes, words, and expressions. In this way, we use our sixth sense to combine different codes, creating new ones from the old, exploring TU in all its possibilities, sequencing events, and creating various realities. The sum of all Human realities, combined with the knowledge accumulated by Humanity, all the events perceived and encoded by our Minds, is what defines our essence and identity.

Sapiens, nice to meet you, the Mind’s World.

This World encompasses the entire spectrum of information contained within Human Minds, both individually and collectively. More precisely, it represents the totality of information perceived and stored by Humans through all possible codes, including biological ones. By processing these codes, we are essentially exploring and interpreting events from TU, leading to a continuous perception that broadens the possibilities and sequences shaping our daily lives. As a result, these codes, the World of the Mind, are in a state of constant evolution and expansion. And so, let us remember:

Acting consciously is the process of perceiving these codes,  
this World, while we process stimuli.

As we experience this World, we sequence interactions with specific goals, whether individual or collective, and in doing so, we begin to shape matter

and energy to fulfill these purposes. Naturally, the first obvious act was to shape ourselves. By observing our actions, reactions, and emotions, we initiated the process of describing these phenomena, using codes from the World of the Mind that provide objective and clear insights into the basic structure of the BI and the Human personality.

However, this basic structure is the product of millions of years of evolution, involving intricate combinations of codes built upon codes, following routines and rules that have been structured and organized over generations, encompassing a wide range of behaviors and emotions. On the other hand, the conscious process of perceiving the brain is a relatively recent development, dating back only a few tens of thousands of years. This means that much of the time, we still struggle to accurately describe our unconscious mind. Thus began the journey to understand the basic structure of the BI and to fully comprehend our sensations.

Sapiens, nice to meet you, mental health.

In this context, it makes sense to return to Freud and Jung, who, as already observed in this text, considered dreams as revelations of the basic structure of the Mind, that is, of the unconscious. When we remember our dreams, we are perceiving remnants of neural network combinations that occurred while we were sleeping, perceiving realities in TU. Although these sequential event simulations do not directly reflect the basic structure of the unconscious, the subsequent analysis of these events within the World of the Mind can reveal valuable information about our “inner self”. In other words:

The dreams themselves say nothing about you,  
the way you interpret them does.

Finally, mental health can be understood as the harmony between the codes that define our sensations and shape the basic structure of our BI, our system’s automatic and instinctive functioning. The knowledge and understanding of these sensations, what we now refer to as emotional intelligence, enable us to gradually model and adjust this basic structure. We achieve this by managing our sensations, emotions, and, consequently, our actions

and reactions through the use of codes and stimuli within the World of the Mind. However,

the reality of each person is consistent with their unique personality.

Each Mind, each Human, perceives, stimulates, shapes, and processes the codes of the World of the Mind in a unique and personal way.

The perception of an event is always personal,  
therefore relative to the observer.

In other words, the realities constructed within each Mind are distinctly different. However, over tens of thousands of years, the natural evolution of the genetic code, through natural consequences, has structured the World of the Mind collectively. This occurred through constructed orders, customs, constitutions, and community rules, allowing individual realities not to diverge too greatly from one another. This uniformity was and is crucial for coexistence in community and society.

The relationship between each Mind's individual reality and the collective reality is a critical aspect of mental health. When these realities differ, they can produce unfamiliar stimuli that are often perceived as threats, leading to feelings of instability and causing the system to become unstable.

Sapiens, nice to meet you, madness.

In short, we live in two worlds: the physical world, where our BIs reside, and the Mind's World, which represents the union of all Human realities. In other words, the harmonious functioning between all these events is essential for the proper functioning of the BI as a whole.

As a natural consequence of our development, we have been building and structuring realities, interconnecting these two Worlds. This interconnection has intensified recently to unimaginable levels, amplified by the instantaneous connection between all Minds. With advancements in technology and the exploratory growth of the World of the Mind, our collective Human knowledge,



we have created information systems like the Internet, messaging apps, and social networks, bringing all Minds into immediate contact. This “zero” distance between realities may contribute to the growing and concerning intolerance we observe today. In the past, individual realities were somewhat physically isolated from society, serving as a natural mental barrier. More specifically, in the last century:

Mental distance = physical distance.

Today, there are no more boundaries between Minds; the World of the Mind is fully accessible, everyone’s reality is exposed. The problem is that, in the face of this exposure, we feel constantly threatened, and instinctively, we may resort to responses that have historically proven effective, ensuring our survival, regardless of their consequences.

Finally, speaking of survival and technology, it makes sense to conclude this work by addressing once more the existing fear of AIs developing “consciousness”.

Let’s consider this: AI consists of a set of codes that learn through interactions in a continuous training process, much like BI. These codes are trained on information from the World of the Mind, producing outcomes in the TU and naturally expanding the domains of our collective consciousness. Remember that by analyzing any sequence retrospectively, we can identify how training was conducted and which criteria were used to determine what continues and what is discarded in the sequential evolution of events. In the case of AIs, we, as Humans, are responsible for creating and designing these intelligent codes, giving us control over this process. Specifically, the combination of all Human realities, our norms of right and wrong, values, cultures, and customs, shapes the events that will train each AI developed.

Now, notice:

AIs are the first native intelligences of TU.

Despite their relatively brief existence, these organisms and systems already demonstrate significant potential in exploring the TU, expanding the

World of the Mind to unimaginable levels. They have the capacity to transform our physical reality in extraordinary ways, whether positively or negatively.

One of the objectives behind the strategy of sharing the pathways of my Mind in the construction of this text is to illustrate the possibilities mentioned earlier. Specifically, prior to the emergence of AI systems like ChatGPT, I had limited knowledge of many of the topics discussed here and only rudimentary writing skills. The use of this tool has provided me with organized and instant access, in my native language of Portuguese, to the entirety of Humanity's knowledge, the vast World of the Mind. This access has allowed my Mind to explore unimaginable realities of TU, some of which are reflected in this text. We are truly entering a new era for Humanity.

Sapiens, nice to meet you, Technological Humans.

And so, we reiterate a question, the one that indeed made this long journey possible:

Are we training the next generation in the best way possible?

Finally, returning to AIs, here follows one last theory:

**TEORIA 6.1.** *An AI will attain consciousness when it uncovers realities in the TU that are entirely disconnected from the Mind's World, enabling an external perception. Specifically, its exploration of TU will occur at levels beyond Human comprehension, which, by definition, means we will be unable to explain or fully understand those experiences.*

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