



VIRTUALITY

A new vertex of reflection in Humanism and Science

Julio Martínez Calzón Dr. Civil engineer

Date of Submission: 15-01-2023

Date of Acceptance: 31-01-2023

The sequence established by the four words incorporated as a previous explanation of the content of this presentation: Nature, Reason, Technique, Virtuality, I consider that they indicate in broad strokes the transcendental path followed by the human

being from its origins to the present moment; and they allow me, by going through it briefly now, to transmit to you, in a somewhat hopeless present moment, a new impulse that overcomes possible demotivations of everyday life.




In addition, when going through it, it will undoubtedly show us that, in essence, there is a process of advancement and progress; that is to say: a metanarrative, a **strong** narrative that constitutes the existential of our species. And not what is postulated by postmodernity and the so-called **weak thought**, which refers man to a cyclical survival without goals. We will briefly and qualitatively analyze, one by one, these four stretches that differentiate said path:

1. Nature: The Physis, the Cosmos.


Particularized for the human being by the Earth, a simple planet of an ordinary solar system; and even more closely, of the crust and atmosphere of that planet, in which we inhabit.



NATURE



Fysis
Cosmos



External "a priori"

Universal and Final Rules

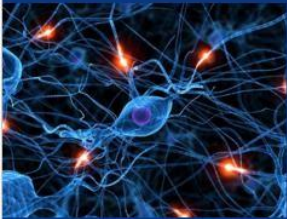
This area is an "a priori" for man, and was modified a thousand times, long before the origin and birth of our most ancient ancestor. It is absolutely dominated by an impressive series of its own rules, principles and laws, completely foreign to man, even when he himself is, as a bios –as a biological entity– an unquestionable part of said sphere.

Such rules are **universal, unappealable and indifferent** to man, although during historical times many peoples allegedly wanted them to be subject to the domain of human power, "delivered" to said power by a superior being.


2. Reason: Logos, thought.

An area that each person recognizes as their own and internal, that assimilates them with other members of their species and with which they constitute, through agreements between equals, rules of coexistence and operation, which govern exclusively what the will of their creators determines; although in certain aspects such conventions include dispositions or precepts that, we could say, are **preformalized** by the biological conditions themselves and instinct, preserved chromosomally, genetically, by the previous conditions of action of the local Nature where we arise, as imperatives or unavoidable demands.

REASON



Logos
Thought
Inwardness



Convened Rules



This area, centered on the brain organ and assisted by the central nervous system and all the external and internal sensory terminals – that is, formed by part of the global bios of the human animal – in addition to rigorously regulating all the vital subsistence systems and operations of the same, houses a relational entity, not exclusively material: **the mind**, which has elevated us to a category of singular species.

3. Technique: Techné, the action

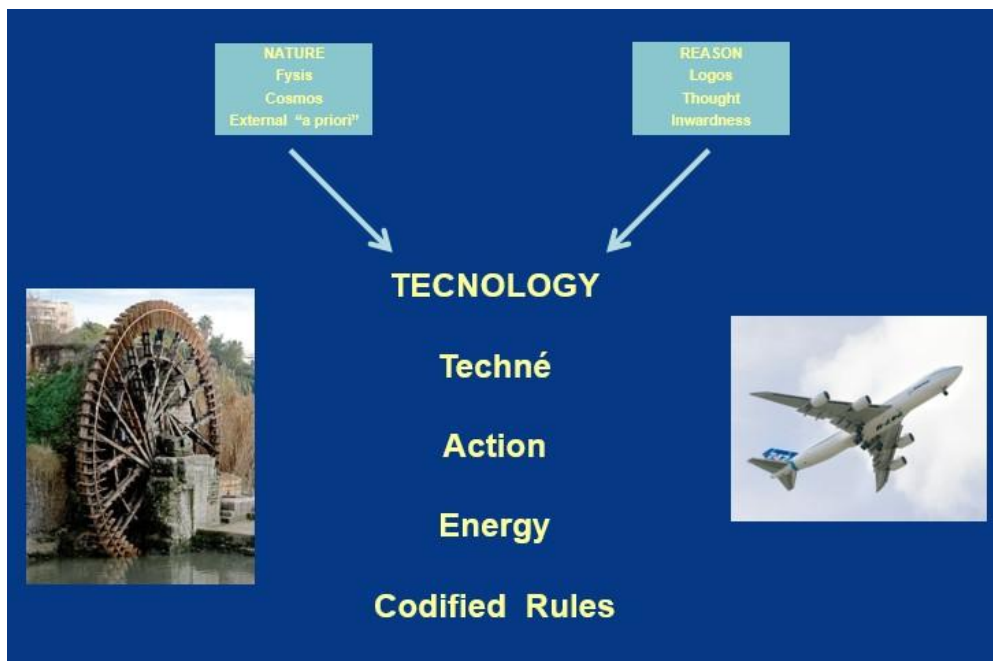
The previous physis-logos duality, equivalent to reality-thought, is innervated or overlapped by two transcendental tools:

- Speech, language

- The technique, the action (being of the hands)

Tools that, despite their shortcomings, have allowed us to become deeply aware of the meaning of being in the world.

This physis-logos interconnection did not occur instantaneously, far from it, but very slowly and mediated very intensely, precisely, by techné. Polysemic Greek word that combines in its meaning: art, technique, crafts, action, construction, etc. and that, as I have previously highlighted, is notoriously linked to the domain and operational capacity of the handsofman.

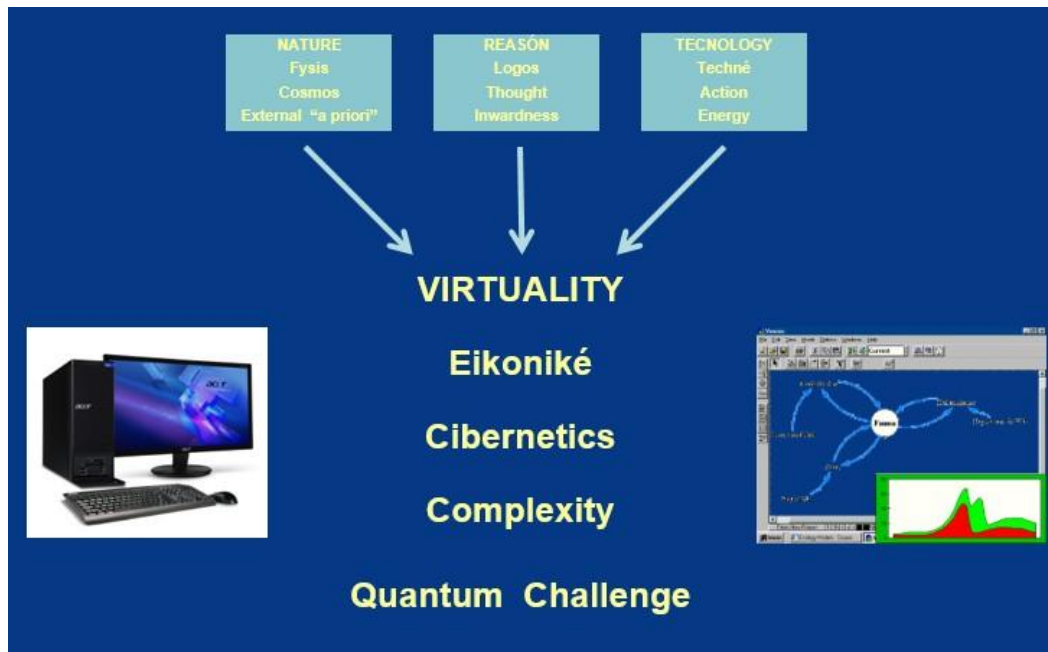


This brain-hand dimorphism and its primordial interaction are, without a doubt, the demiurge of the human; and the manual-mental techne triggered the cerebralization of the species and its current consistency, giving the technical fact a basic and constitutive role in the evolution of man.

And with even greater emphasis, the **physis-logos-techné** trilogy has also resulted in shaping what has been achieved by the current human species in understanding itself and cosmic nature: the extraterrestrial, unfathomable cosmological, and the intramaterial, unfathomable infinitesimal; that are allowing deep knowledge and understanding of Nature and the person.

4. Virtuality: Eikoniké, the cybernetic.

Very recently there has been the appearance of what we call a cybernetic technique: massive and very fast processing of enormous volumes of information, together with the precise representation of the results and conclusions operated by it, in graphics, images or figures appropriate to the immediate understanding of a process; giving rise to the determination of a new vertex of total understanding that joins, with all merit, to the aforementioned trilogy to establish a new step in human development.



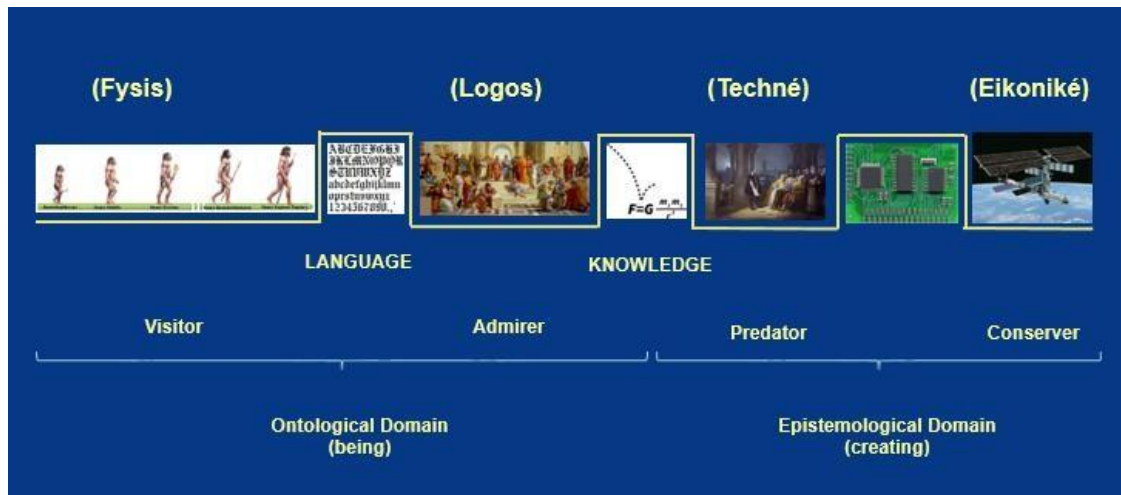
The new set thus updated: **physis-logos-techné-eikoniké**; or **nature-mind- technique-virtuality**, opens a new era in which the technique, operated through said virtuality, is no longer only an action destined to the productive fact, in the first instance; but to a much more descriptive- expository-explanatory fact of the reality of the world, but with other very different orders of its fundamental factors: temporality, spatiality, and materiality.

At the same time that it opens a path to the reformation of all the aspects of the mind and towards inexhaustible possibilities about Artificial Intelligence (AI), longevity and many other aspects of the world not yet known (some minimally intuited), which will unpredictably expand man's ability to interact with his habitat and that, as a whole, is giving rise to the formalization of a new human paradigm.

To reinforce what it intends to expose and partially simplify the foregoing, it could be established that, in this path traveled by the human being in his future, the section of the physis would correspond to homo before using language, as we understand it today; in that interval the homo would be exclusively situated as a guest actor.

The milestone of **language** would separate that section from the one corresponding to the understanding and comprehension of the human condition itself and of the frank and close part of terrestrial nature.

In this space the man would act as an admirer of the road and its landscape.



The next milestone of experience and the test that leads to knowledge would separate the previous section from that corresponding to techné and homo-faber, capable of making the most of what is simple, but hidden, in nature to the direct senses of man.

In this part of the route, it can be said that man has been a predator of the road environment.

These three sections of the path could then be successively categorized as:

ante lingua – sub lingua – sub scientia

paraphrasing E. Panofsky, who proposed other analogous differentiations for the deep understanding of the classical and Christian worlds:

antevulcano – **subvulcano** – **subprometeo**, in the first; and
(before the fire)- (with the fire)- (with the understanding)

antelege – **sublege** – **subgratia**, in the second
(before the law)-- (under the law)-- (with grace)

Until the end of the phase corresponding to the technique, practically everything was produced under the conditions of the human scale, in the three fundamental aspects of our being in the world: space, time and matter (energy).

The advent of virtuality, understood as it has been stated, has opened this spectrum to the full breadth of its scales, but allowing representations, not only adapted to the space-time-materiality that constitutes us, but also in their interaction with each other; to offer us a more perfect understanding of the hyper and micro phenomenology of everything that we are accessing. In this now open part of the path, it is necessary, inevitably, to have to act as friends and preservers of it, because our interaction with said path has reached exceptional levels capable of self-destruction.

In terms related to the paradigms (models) that man has forged for understanding the world, we could say that the slow evolution of primitive man, until well into the historical era, was governed by a **paradigm** of a **magical** nature, which linked a world of fascinating ideas, (created in their own and different ways by very diverse peoples) with the world of natural reality, with hardly any obvious or true correlates.

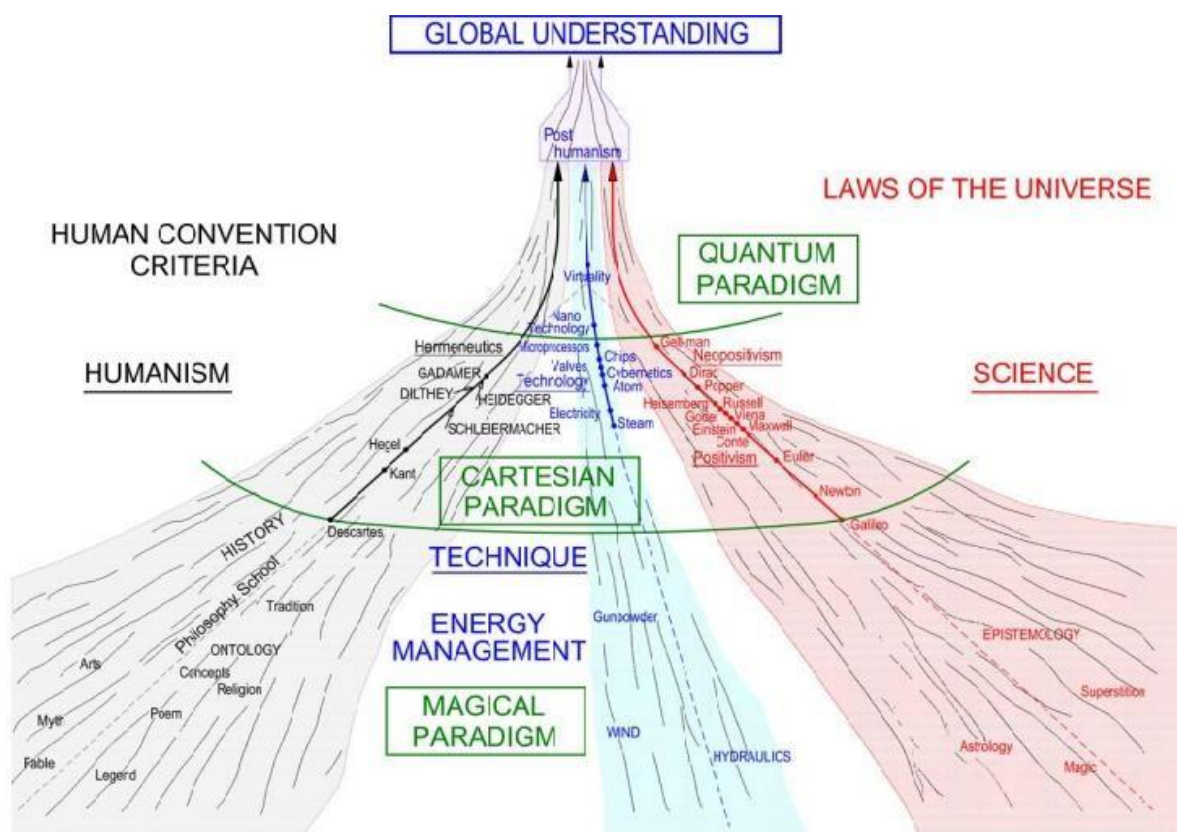
Galileo, Descartes, Newton, Leibnitz, and many others from the end of that time would break said ideal model or archetype –not without great difficulties, raised by the holders of those magical powers– giving rise to a new **rational or Cartesian paradigm**. A world of things, of real entities; that would focus first on science to, immediately, through the nascent technique, break



the energy ceiling of the previous world – made up of human, animal, wind, and hydraulic energy – under the protection of the successive discoveries that the great mental change operated in the man sought: steam, electricity, fossil fuels and, more recently, nuclear power.

Very recently, in the 70s and 80s of the last century, although heralded by knowledge related to the theory of relativity and quantum mechanics and chromodynamics, the cybernetic revolution (informatics, computers, nanotechnology, etc.) would

be unleashed, which has fragmented that previous world of objects into a thousand pieces, to fully immerse ourselves in a realm of new concepts of temporality, spatiality and materiality, based on a world of changing dynamic relationships, on a new **quantum paradigm**, in which we are rapidly entering, driven for virtuality; of total novelty and potential, but in which, unfortunately, the political, financial and social structures of the previous model are still maintained, which fiercely limit those possibilities and capacities that the new model offers.



This long prelude, necessary to contextualize everything that follows, will now allow us to pose rigorously and with some precision what virtuality is representing in all areas of our current world, both those from previous stages and those that are already the fruit of the new open stage indicated.

In the first place, the fundamental presence of virtuality – as has been indicated in passing – is not expressly directed to an immediate productive action, but rather its most obvious activity is directed to the most perfect interpretation, modelling, explanation, and simulation of complex space- time-material phenomenology; the three constituent a priori of everything that exists and, therefore, of energy as

their basic transformation.

Virtuality is very precise, but vague, even if this seems like an oxymoron. Accurate, because it was born from the hand of electronics and computers that process information at very high speeds following very precise instructions; to offer in a very short time, almost instantaneously, solutions to all kinds of problems or pseudo-problems (because these machines do not discern the initial proposal), clearly breaking with the classic temporality and creating other types of relationships. And vague, because we do not know in what direction this new action is pushing us, arising from the least expected field of human reasoning: the numerical ordinal.



This virtuality –condition of possibility of the new quantum paradigm– determines and requires a new formation, which in turn is conjugated, through virtuality itself, in many ways:

1 Training-Education

Moving from reading to screen: hypertext; simultaneity; data access; navigation; programs; study of complexity (Teilhard de Chardin)

2 Information and Communication

Instantaneity and knowledge in real time. Access to action and proposal systems. Social media. Telepresence. Nano instrumentation. Offshoring. Applications

3 Transport

Complexity management; Access; knowledge of the process; control; services; optimization and instant information. Automation. Big transportation.

4 Housing

New aids: home automation; robots; nanotechnology.

5 Health and Life

Transcendental applications: diagnosis, scanner, prosthetics, bionics, biogenetics; coupled medicinal applications; longevity; cloning.

6 Leisure and Culture

Custom image and audio; High definition and three-dimensionality; digital photography; Current Arts; Guided tours; Museums and virtual tours; podcasts.

7 Economy

Active knowledge; dynamic interactions; subjects; values.

8 Politics

Network control; system monitoring; against power.

9 Research and Technology

Manage all possibilities

Thus, virtuality is giving rise to the previous energetic-machinist technique softening and starting to form much smaller, softer, “weak” systems and elements, we could say, paraphrasing G. Vattimo here; so that such systems entail an enormous flow of humanistic possibilities and, what is more important, they can become, in many cases, “peripheral” components of our minds, essentially transforming our creative and operational capacity.

The plasticity of our brain is carrying out a gradual adaptation to this new way of being in the

world, which occurs to a lesser extent depending on the age and willingness of each person to change. There is a certain generational rejection of the new paradigm of dynamic-changing relationships between people and the world, but that is irreversibly forcing all populations to immerse themselves in this new model of experientiality.

Until recently, the reason-knowledge dialectical formation process has been based on the observation, study and analysis of reality perceived by the senses and by the metabiological capacity of the human mind to conceptualize processes configured over time, analyzing the changes produced in such processes.

It could be considered that this new contribution of cybernetics is just one more of the rungs that the human-technical being has been climbing in its sustained evolution, but I understand that this is not really the case, but that a quantum leap is taking place, similar to what happened between the Paleolithic and the Neolithic and, parallel —although with a greater unevenness—to what the printing press supposed.

That is to say, a specific qualitative change, due to the new state of noetic perception that affects a new temporality and spatiality, realistic and not intuited, of the prognosis and understanding of the total phenomenology of the cosmos; combined with the opening towards the next revelations of the fine and still hidden plot of it: nuclear fusion; dark energy and matter; quantum gravity; etc.

Virtuality, like a kind of special glasses, equips our senses to capture an infinity of questions of all kinds and conditions, in a more essential and perfect way, contemplating the world with a new, more intrinsic depth and without mediations, more instantaneous and assimilated; more formalized, in a word. As is the fact of driving a car, an act that once integrated into our brain then allows us to perform this task with no more effort than mere intuitive action.

The capacity of the mind to imaginatively jump over the fundamental trilogy of the categories of Nature, mentioned again and again: space, time, and matter; or even the most intense circumstances of the person's own being (illness, pain, subjugation), is now being preconfigured in much more real terms, through virtuality, preparing us little by little for unexpected events of the Artificial Intelligence type, and hidden novelties of the cosmos.

Thus, virtuality is codified in a more intense understanding of the supraréality still existing in the cosmos, above our senses, wisely adapting it to our subjectivity; in a way that the subject-object duality had never achieved.



So far, the song of welcome and adulation to this new intramundane entity that has appeared in our lives. Because at the same time, this new potentiality, like all creations of man, entails a new sphere of danger, of domination of man by man.

And here we can meet, with a new, much broader mental disposition, with the extraordinary couple Hölderlin-Heidegger in their farsighted poetic assertion that expresses: "**But where the danger is, that which saves also grows.**" I consider that the extreme danger that the enormous potentiality of virtuality presents, also carries the germ of its salvation, which is none other than its enormous capacity to educate, or better still to train; far superior to how many other previous creative processes of man have granted (except, perhaps, the printing press).

We have been able to see recent cases of oppressed societies, which have known through virtuality their possibility of acting in similarity to other freer societies or others like the Hindu one that are jumping over time in an implausible way.

And above all, we can and must increasingly use this new tool to improve as a species, in a broad sense. As Heidegger tells us in his final closing, basing ourselves on the intensity and growing possibility in all of us of **asking** through that emerged virtuality; attesting to the intense call with which this author appeals to us: "**Because asking is the piety of thinking.**"

We can consider that the powerful structural processes, the complex systems, the transcendent creations, the sublime works of art, all the great human achievements, regardless of their temporality and their potential in later time, entail an imposition, a **Ge-stell**, emerged from within, from the depths of the human; that reveals or collects what is primordial in the work of the species and that endows such achievements with a subtle anchorage with the condition of physis that all human work entails. This Ge-stell is not a simple showcase or sample of the occult, but rather it is a soft, calm order that comes from beyond the human, from the physical-telluric-magmatic-stellar that still nests in our brain configuration and organic.

Because it is in the advancement and configuration of new languages and capabilities where much of the potential of past, present, and future creations is played out. Philosophical languages, carved at the dawn of man's rational thought and maintained for the most part until our days, seem to indicate an insufficiency in their ability to understand the complex dual-quantum sphere of the new frontiers of reason. It seems logical that, under cover of the unstoppable progress of the revelations that are unraveling in the scientific-technical field, linguistic schemes should also begin to be considered that can

account for and specify, with a higher mental order, less rhetorical and more efficient, all that phenomenological-conceptual range that the penetration into the microphysis is spilling over the human habitat and action.

As a simple example of all this, we could cite the complex path that the concept of the wave-particle duality that all fundamental particles present, for its full understanding by society, had to travel; when such property is, practically, a basic condition in the human being, with its body-mind duality and that allows us, depending on our actions or the way in which they are observed or emitted: sight, photography, etc. (corporeity), voice, radio, etc. (mindset), grasp the processes and then integrate them appropriately. And in the same way, it is very possible that the somewhat abstruse and irrational conditions that quantum mechanics proposes as operative in the processes of microphysics, are coherent with the way that our thoughts and their emotions (love, solidarity, intuition, ...) closely linked to the corporeal, could account for entanglement, wave function breakdown, etc., characteristic of that discipline.

Virtuality and all its immense derivations that, little by little, are unraveling and immersing themselves in human vitality, with those mental openings that are required for multitasking understanding or self-nurturing changing relationships, could be appropriate instruments (as in fact it is gently taking place) to establish these new direct meta social languages, which propel the new complexity, which looms over society with no possible return; in a similar way as the evolution of mathematics, in all its branches, does with scientific-technical thinking and understanding.

All this web of possibilities and possible demands is nothing more than a somewhat open or illusory proposal, and must be understood, in any case, in line with the two profound humanistic pieces of advice that I will quote below, which go far beyond anything as soon as my words have been able to arouse:

"Serenity towards things and openness to the mystery"
M. Heidegger

"It is proper to reason to see things with a certain perspective of eternity" B. Spinoza