

THE STEIN-FABRO COMPOSITION OF THE ESSE AND ITS RELATION TO VEILED REALITY

*A COMPOSIÇÃO DO ESSE EM STEIN E FABRO E SUA
RELAÇÃO COM A REALIDADE VELADA*

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Abstract

The nature of something is that which constitutes it most inwardly, determining and limiting it, while setting it into motion as a subject capable of performing activities and receiving actions. This nature defines a unity in the individual and realizes some totality. This unity also specifies the individual, determining it. Nature must therefore consist of (since it is not a collection of randomly interacting parts) a meaningful structure for the individual. In the natural order such structure is also material, which does not mean that, in its totality, the structure

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is integrally sensible. This paper explores the composition of esse in Edith Stein and Cornelio Fabro, articulating their metaphysical foundations within the classical hylomorphic structure, and establishing its relation to Bernard d'Espagnat's concept of Veiled Reality. It examines the transcendental and predicamental compositions of being and essence, arguing that these offer a coherent metaphysical framework capable of uniting philosophical ontology and modern physics by means of the hylomorphic structure. Some effort is also made from a mathematical point of view to outline in very general terms how both compositions, transcendental and predicamental, might be represented.

Keywords: Metaphysics. Ontology. Hylomorphism. Esse. Edith Stein. Cornelio Fabro. Veiled Reality. Bernard d'Espagnat.

Resumo

A natureza de algo é aquilo que o constitui mais interiormente, determinando-o e limitando-o, ao mesmo tempo em que o põe em movimento como sujeito capaz de realizar atividades e de receber ações. Essa natureza define uma unidade no

indivíduo e realiza certa totalidade. Essa unidade também especifica o indivíduo, determinando-o. A natureza deve, portanto, consistir (uma vez que não é uma coleção de partes que interagem aleatoriamente) em uma estrutura significativa para o indivíduo. Na ordem natural, tal estrutura é também material, o que não significa que, em sua totalidade, a estrutura seja integralmente sensível. Este artigo investiga a composição do *esse* em Edith Stein e Cornelio Fabro, articulando seus fundamentos metafísicos dentro da estrutura hilemórfica clássica e estabelecendo sua relação com o conceito de “Realidade Velada” de Bernard d’Espagnat. Examina as composições transcendental e predicamental do ser e da essência, argumentando que estas oferecem um arcabouço metafísico coerente, capaz de unir a ontologia filosófica e a física moderna por meio da estrutura hilemórfica. Também se faz um esforço, sob uma perspectiva matemática, para delinear em termos gerais como ambas as composições — transcendental e predicamental — podem ser representadas.

Palavras-chave: Metafísica. Ontologia. Hilemorfismo. *Esse*. Edith Stein. Cornelio Fabro. Realidade Velada. Bernard d’Espagnat.

The Metaphysical Foundation and the Hylomorphic Structure

The *nature* of something is what constitutes it most inwardly, everything that determines and limits it, as well as sets it in motion and endows it as a subject capable of carrying out certain activities and receiving certain actions. Such a nature exists in every individual of a given species because there is unity in the individual; this latter is not a gathering of constituent parts (elements) without any determination, but, on the contrary, it creates a totality. Now, there cannot be totality without there being a unity, namely, wholeness and oneness are both intertwined, because oneness endows the whole with its determinations, its position in the hierarchy of things. It is the unity of nature that specifies the individual and gives him its determinability.

It is evident, then, because the nature of the natural individual determines and drives him to achieve and suffer what is its own-ness, what suits him, that is, the realization of its totality, then such a nature must consist of (since it is not a simple gathering or heap of parts that interact with each other randomly) a significant structure for the individual. Furthermore, it must be the case that although such a structure is made of matter, it does not mean that, in its entirety, the structure is purely made of matter. The reason for this is that what is essential in the individual structure, that which carries its intelligibility, which Edith Stein¹ have called *Carrier*, is by itself a pure intelligible in toto (as a whole), namely, the *eidos* or species, and is therefore not a sensible or material element. In other words, the carrier is entirely suprasensible. We therefore must demonstrate the fundamental properties of natural things in general from the presence of a suprasensible structure in the things themselves (the *essence* of things is in the things themselves).

Axiom 1: Any natural thing is either an individual in the usual sense of the term or a non-individual.

Axiom 2: Every natural thing is composed of matter and form, that is, every natural thing is a hylomorphic thing.

Definition 1: In anything hylomorphic form is the bearer of meaning and matter is the bearer of structure. Namely, form is predominantly yet not exclusively semantic functionality and matter is a purely syntactic functionality².

¹(STEIN 2002, 207-213).

²One must understand form and matter as tensions, to use the concept of Mário Ferreira dos Santos in his unfinished book, *Teoria Geral das Tensões*, unpublished, still in the form of diagrams and notes. A tension has “Component elements that are identified as a whole, coherently connected and homogenized in this cohesion”, as stated in Mário Ferreira in (SANTOS n/d, 31). This work

Corollary 1: Every hylomorphic thing is the composition of semantic content and a syntactic structure.

Definition 2: The semantic content communicates the meaning, the movements specific to each mode of being, to natural things.

Corollary 2: Every hylomorphic thing is the unfolding of a meaning³.

Definition 3: The syntactic structure communicates the framework or means for change, or movement, to natural things for the effective realization of their mode of being, which is essentially characterized by being subject to becoming.

Axiom 3: The form (or semantic structure) consists of:

- a) In a purely qualitative or carrier functionality, which is the formal act or synthetic unity of qualities. We can call it essence *stricto sensu*, as it says what the thing essentially is. It is the quiddity or universal abstracted through the *intellectus agens* from the external accidents of natural beings; also called species. It is what is given in the definition of the latter, as, for example, rational animal defines man. Stein (2002, p. 153) also states that this is the existence of

A deep and rooted mutual connection between essence and being in the thing. What is of a rose is 1) the *essential quid* or meaning [semantics], which is neither an individual rose nor the nature (essence) of an individual rose, but is actualized [act] in each individual rose; and 2) the quiddity of the individual rose, its inherent and specific [species] determinability, which, although not yet the ultimate determinability of the essence [because it must also express itself through its foundation], nevertheless belongs to the latter. Only the *what* of this *particular* rose is such a final determinability, since it is this what or quid that distinguishes this rose from all other roses (in any case, from all roses that are not “totally similar to it”, granted the possibility of that there may be roses that are completely similar to it) ⁴.

- b) In a qualitative-quantitative functionality, which Stein calls foundation, this is the formal act or synthetic unity of certain semantic substructures that are necessary for the ultimate determinability of the individual. We could call

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³(STEIN 2002, 325).

⁴(STEIN 2002, 153).

it intermediate essence, as it says what the thing is essentially like a certain individual, even if not finalized in its current presence in the space-movement⁵ realm. It is the formal unity, a formal act, therefore, of the individual as it presents a multiplicity (power) in terms of the unique development of certain attributes of uniqueness in terms of what is its own insofar as it is this or that individual, who bears (see above) a species that defines it.

Axiom 4: The matter (or syntactic structure) consists of:

- a) In a quantitative functionality or protomatter, which is the formal act or unity of syntactic substructures. We can call it elementary essence, as it endows protomatter with the intrinsic qualities by which it receives its entitative character as a potential being (*ens in potentia*).
- b) In a purely quantitative function or multiplex, which is the power or the pure material multiple of the syntactic substructures, as it endows protomatter with the plastic amplitude to receive all the natural forms that its entitative aspect can give it. Here is the most indeterminate power (or potency) of matter, its indefinitely plastic complexion. It could be assimilated to Anaximander's *ápeiron*, although it differs from it because it is quantitatively finite, while the “stock” of the *apeiron* is supposed to be quantitatively infinite in extension by most scholars, including Kahn and Solmsen.⁶ In effect, this substructure can be assimilated to an indeterminate multiplexable medium. Let's call it a multiplex from now on.

Usually, in Philosophy, there is a kind of undisguised aversion to figurative schemes that present, in pictorial terms, some conceptual elaboration. This is justifiable because a poorly formulated image can lead to mistakes or a bad, or even erroneous, understanding of the issue under analysis. Despite this justification, nor are we eager to debate this issue, we believe it is useful to present a scheme that

⁵In usual terms, the expression “space-time” is used. However, this latter is to be taken here, in this work, just as a mathematical construct, a being of reason, useful in Physics, but devoid itself of ontological scope, in the sense that it is not both concretely realized and represents a mode of being that we can associate with corporeality. We prefer the expression “space-motion” (which has an interesting analogue in the phase space of physics), because this expression contains two elements clearly endowed with an ontological foundation: corporeal extension, whose abstraction in dimensional form, continuous or discontinuous, is the space; and becoming, whether substantial or accidental, to which we associate a duration whose sequencing, continuous or discontinuous, we call “time”. In the latter case, time is just a number attributed to becoming, while space performs an ontological characteristic through the abstract establishment of real corporeal dimensions associated with bodies.

⁶(KAHN 1994); (SOLMSEN 1960).

implements the proposed general structure. However, such a scheme cannot be embraced as a straightaway jacket that directs us to easily avoidable errors. Therefore, the pictorial figuration below does not replace any conceptual scheme that may better capture the purpose we have in mind when seeking to represent that which is trans physical. No representation exhausts or fixes the real structure subsisting in each individual entity, which is its intrinsic law of proportionality, the dynamic law associated with it. Like every model, it is an idealization of reality, and, in a certain sense, the latter also accomplishes something like an ideal eidetic-noetic scheme as shown next⁷.

We would like to stress, before presenting the previous mentioned scheme, that Anaximander's apeiron, is to be considered in effect to be quantitatively finite, although the “stock” of the apeiron is supposed to be quantitatively infinite in extension by most scholars, including Kahn and Solmsen. In effect, one of the substructures to be shown in the scheme can be assimilated to an indeterminate multiplexable medium. Let's call it a multiplex from now on. Usually, in philosophy, there is a kind of undisguised aversion to figurative schemes that present, in pictorial terms, some conceptual elaboration. This is justifiable because a poorly formulated image can lead to mistakes or a bad, or even erroneous, understanding of the issue under analysis. Despite this justification, nor are we eager to debate this issue, we believe it is useful to present a scheme that implements the proposed general structure. However, such a scheme cannot be embraced as a straightaway jacket that directs us to easily avoidable errors. Therefore, the pictorial figuration above does not replace any conceptual scheme that may better capture the purpose we have in mind when seeking to represent that which is trans physical. No representation exhausts or fixes the real structure subsisting in each individual entity, which is its intrinsic law of proportionality, the dynamic law associated with it. Like every model, it is an idealization of reality, and, in a certain sense, the latter also accomplishes something like an ideal eidetic-noetic scheme.

⁷(SANTOS 1958, 54); (SANTOS 2007, 101-108).

FORM (semantical unity):

Γ_0 : purely qualitative functionality, or carrier.

Act: formal unity of the semantical functions; primary or stricto sensu essence (unicity of the species).

Γ_1 : qualitative and quantitative functionality, or foundation.

Act: formal unity of the semantico-syntactical functions; intermediate or lato sensu essence (unicity of the individual).

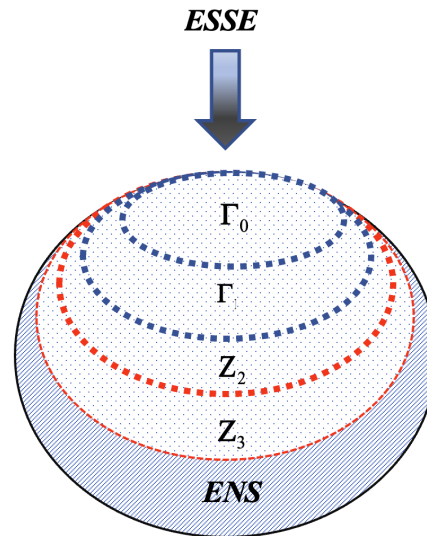
MATTER (syntactical multiplex)

Z_2 : quantitative functionality, or protomatter.

Act: formal unity of purely syntactical functions; elementary essences.

Z_3 : purely quantitative, or unknowable substratum

Potency: indeterminate substratum in which inhere the multiple purely syntactical structures, or multiplex.



0: subscript that refers to *T*, *Träger* (Carrier), corresponding to a symbolic or arithm-archetypical morphisms.

1: subscript that refers to *Z*, (*Zu*)grundlage (Foundation), corresponding to recursive algebraic morphisms.

2: subscript that refers to *G*, *Gestalt*/*Gebilde* (Protomatter), corresponding to a Weyl algebra.

3: subscript that refers to *S*, *Stoff* (Unknowable Substratum) or, as a proposed terminology, the *Multiplex*, which can be represented by Hestenes multiforms.

Γ , Z : both represent morphisms whose subscript indexes indicate the types of morphisms, basically meaning the dual form-matter composition.

*As to the meanings and application of **morphism**, **recursion**, **Weyl algebra**, and **multiform**, presently unnecessary for our exposition are available in (Jost, 2015).*

Lemma 1: In anything hylomorphic, the semantics drives the syntax. This means that the semantic structuring or composition of morphisms, $\Gamma_1 \circ \Gamma_0$, both symbolic-geometric and computable, corresponding to carrier–foundation communication functionality, establishes the operating rules for the syntactic structuring or composition of morphisms, $Z_3 \circ Z_2$, corresponding to the simplest computable algebraic substructure “near to”⁸ the ‘pure’ material multiple⁹ or multiplex. By

⁸This expression is used by Saint Thomas in (TOMÁS DE AQUINO 2009, n. 37). See also next footnote

⁹The forms [in our interpretation, functions] most imperfect and closest to matter [in our interpretation, the multiplex or maximum multiplicity] are the elementary forms [in our interpretation, functional substructures], of which the lower bodies are materially composed, the which will, therefore, be all the more noble the more they distance themselves from the contrariety of the elements [of algebraic operations] and approach a certain equality or balance of mixture” [Op. Cit., 37, 139]. Obviously, there is no such thing as “pure” multiplicity or “pure potential”; what exists is a capacity to multiply under different species or forms, the more perfect the more individuated in a subject. The multiplex is a principle, not a subject; therefore, it is real, whereas a subject that was a multiplex would not be real: it would only be a being of reason, or a logical being.

representing with brackets, we simply mean to indicate that a structuring or multiplexing of a higher structure into a lower one is made through a functor, that is, through a morphism of the upper layer into the immediate lower one, which allows the multiplexing of the guided structuring function. by the top layer. Now, this morphism corresponds to the process of specifying the multiplex as the final step in the morphisms from the highest and synthetic functor which is carried out into the lowest and disjunct set of algebraic operations depending on the former. In general, we will consider that such morphism is represented by the composition of functions with successive morphisms that is the result of the effectiveness of the transcendental composition of *Esse* with a given essence given that owns the essential meaning of the species, unfolding this essential meaning to a certain individual throughout the hylomorphic architecture, from the infusion of being through the transcendental operation of the composing of *esse* and *essence*, followed by the predicamental operation between form and matter, down into its emergence (or projection) in space-time as a given hylomorphic thing with a given set of determined quantitative dimensions and qualitative sense perceptions.

Corollary 3: Every hylomorphic thing is obtained by means of semantic-syntactic morphism $\mathbf{Z}_3 \circ \mathbf{Z}_2 \circ \Gamma_1 \circ \Gamma_0$ ¹⁰

The semantic and syntactic functionalities referring to the hylomorphic organization, as well as its constituent elements, are symbolic representations of what is, by nature, *trans physical* or *extra-physical*¹¹. It is an intelligible order, neither directly nor indirectly observable or measurable, precisely because of its metaphysical character. However, if the proposed architecture is correct, then certain observable or measurable properties can be inferred (by deduction) from the hylomorphic architecture. In this way, tracking of the *trans physical* architecture will be possible by logical induction. Now, by linking the formal functionality — strictly speaking, only the syntax given by the plexus $\Gamma_1 \circ \Gamma_0$ — with the plexus $\mathbf{Z}_3 \circ \mathbf{Z}_2 \circ \Gamma_1$ which indicates the purpose of the given individual, then a clear formal criterion of the presence of the total structure could also be determined, the precise one which drives the individual or any given natural process toward its specific end. Now, let us remember that Aristotle called the formal plexus, in his *Physics*, the “species” (*eidos*) of the thing. In principle, given that a species which is identifiable by certain properties that are connatural to it, it would be possible to indicate such a *trans*

¹⁰In our case, to all morphisms there corresponds functional composition operations which shall be carried out by means of Hausdorff’s topology operations, precisely the ones given in the described sequence above.

¹¹The character of which is veiled for experimental science, to use the term used by (D’ESPAGNAT 1996; 2006).

physical criterion tracking pointing out from simple induction to the purpose of a natural process. This inference could be based upon has been called *Complex Specified Information* (CSI), as described by William Dembski in his doctoral thesis¹². The opposite path, namely, derivation by deduction can be made possible through the extraction either from models or theoretical structures based upon the indicated hylomorphic semantic and syntactic functionalities or morphisms. However, to stress it once more, hylomorphic features themselves can only be given by induction. Therefore, we formulate the following hypothesis:

Hypothesis 1: The proposed hylomorphic architecture is homeomorphic to an architectural model in such a way that its semantic form or functionality or morphism is isomorphic to certain informationally (computable) algorithmic model¹³.

Definition 4: In every hylomorphic architecture, the Form-functionality induces a mapping (morphism) from the semantic-qualitative structure of the carrier functionality into the syntactic-quantitative functionality of the foundation. On the other hand, the form-functionality induces a mapping (morphism) from the syntactic-quantitative functionality of the foundation into the quantitative functionality of the protomatter, which is by itself an independent syntactic substructure. Finally, this latter quantitative substructure induces a formal mapping (morphism) into the purely quantitative functionality of the multiplex, based upon which the formal aspects of a unified language for the laws of nature can be deduced. For instance, such a unified language can be obtained by means of the formalization described by David Hestenes¹⁴. Definition 4 can be better understood as follows:

- i. In any hylomorphic architecture, the Form taken as a synonym for Function induces a mapping (morphism) from the semantic functionality of the Carrier layer into the syntactic functionality of the Foundation layer. This latter could also be called the “Founding Syntactic Structure”.
- ii. In any hylomorphic architecture, the Form taken as a synonym for Function induces a mapping from the syntactic substructure of the Foundation layer onto the syntactic substructure of the protomatter by multiplexing operations. Multiplexing occurs through a many-to-many relationship ($m \rightarrow n$), whereby each syntactic structuring relation maps to a subset of formal elements (the multiplex or holons), which can be represented through elements of a Weyl

¹²(DEMSKI 1998).

¹³(CHAITIN 2004).

¹⁴(HESTENES 1987).

algebra. The total set of multiplexes or holons is generally equivalent to the concept of *prespace*.

- iii. In any hylomorphic architecture, protomatter, considered as isomorphic to the syntactic functionality described above, induces a multiplexing through a many-to-many relationship whereby each syntactic substructure, which is itself a set of multiplexes or holons, is a subset of material or multiplexed elements with metric forms equivalent to *multiforms* associated to vector spaces, according to the geometric algebra model proposed by David Hestenes. Multiforms are then generated from the dual spaces of Weyl algebra, and the result of this operation is the arrangement of the protomatter (or multiplex) which induces certain quantitative dimensions on the multiplex. The best approximation to this representation is the algebra of operations in some Hilbert space. This ultimate layer is arranged according to a specific metric organization in space and time and is dynamic by its very nature. This metric arrangement allows us to observe and measure phenomena. Such quantified or dimensioned structuring in space and time is equivalent to the concept of *materia signata quantitatae*, that is, a matter marked by quantitative dimensions, as behooves to any manifestation in space and time.

The Circle Symbol and the Hierarchy of the Cosmos

In his renowned treatise, which brings together the traditional thought of different civilizations and cultures on various topics such as justice, truth, knowledge, beauty, etc., Whitall Perry had set out in the previous chapters the considerations that now indicate certain correlations “between the concepts of centrality, origin, presence, pole, apex, interiority and simultaneity”¹⁵, by means of which a kind of tripartite cosmic synthesis of space and time is established, namely, of all existing things, pointing to an “Eternal Presence”, central, full of bliss, an authentic and venerable *Comprehensor*, who is not only a Transcendent, Solar Intellect, source of the macrocosm, but also inhabits, in a mysterious way, the human “eye of the heart”. Now, we could associate the Platonic *eye of the mind* with this venerable *eye of the heart*, which can be easily related to the tripartite Pauline conception of body, soul and spirit¹⁶, through which one can reach a mystical, but also intellectual, vision of the most primordial mysteries of the cosmic structure, not only through the

¹⁵(PERRY 1986, 814-815).

¹⁶“May He Himself, the God of peace, sanctify you entirely, and may your whole being – spirit, soul and body – remain blameless at the coming of Our Lord Jesus Christ” (Thess 5,23). [Our italics].

experimental-deductive route, as it became commonplace to think since 16th and 17th centuries, to be the only way to a legitimate and safe knowledge, especially deducted from the first apodictic, logical and symbolic principles which structure the totality of reality *in* a unity of its oneself and neither is an object or anything obtained by the current scientific method. Perry then quotes René Guénon, for whom the human being, on his path of achievement, seeks to reach the first center, the “Primordial State”, which is reflected in this world, a world in space and time, filled with ordinary entities and facts, both manifested in the natural order:

It is in this center that “time is changed into space”, since herein for our state of existence is the direct reflection of principal eternity, which excludes all succession; moreover, death cannot attain thereto, and thus it is also the “abode of immortality”: all things appear therein in perfect simultaneity in an immutable present, through the power of the “third eye”, with which man has recovered the “sense of eternity”.¹⁷

The above consideration of Guénon is of fundamental importance for the proposal that we will develop in this section, since we will return to it based on the analysis undertaken by Wolfgang Smith, especially in three of his (Smith) works, in which, under different demands and with different purposes¹⁸ he presents us with the symbol of the circle, which captures the cyclical unfolding, in his understanding, of the various strata of cosmic reality, which is completed in what Guénon would call the “solidified” presence of space. This last step is obtained, according to Smith, through an authentic process of alchemical synthesis or *coagula*, resulting in the material reality associated with the cosmic “periphery” or *realm of quantity*, according to the Guénonian expression.

The symbolic character of the circle is extraordinary. Note that, in addition to symbolizing unity *par excellence*, or the One, a universal constant in the religions of all peoples¹⁹, the circle presents us with three constitutive elements: the *center*, the *radius* that sweeps its interior, and the *circumference* itself, which completes it and determines it within its limits. This means that the circle also captures the Three or Triad as a symbol, insofar as it establishes a *relationship* between its constitutive elements. Now, the aspect of mediation is a relevant characteristic for understanding the tripartite cosmos. Let us see what Mário Ferreira dos Santos tells us about it:

¹⁷René Guénon apud (PERRY 1986, 814-815).

¹⁸(SMITH 2003; 2019; 2020).

¹⁹(SANTOS 2007, 198).

The Three is also the symbol of the intermediary, the mediator. Between the syntheses there is always a point of unification which mediates them [...] Three is a symbol of dynamism, because if Two can provide balance, Three will be the dynamic disruption of this balance, without destroying the dyad, the antinomy; however by the interaction given by the relationships which are then formed, it [The Three] expresses the modifications each one undergoes due to the action of the other and vice versa; and, finally, the difference with which it enters into the new relationship, due to the influence already suffered by the action of the other, which in turn is already different, thus explaining the dynamic becoming that Two only underlies, and Three captures as a process in its development.²⁰

The exposition above seeks to comply with a mathematical approximation²¹, given that the *Esse*, to the extent that it can be considered a Carrier of all perfective virtues, each of which is equally perfectible in potency, can also be said to exist for each one of them under the scheme of an *arithmós arkhai*, an archetypal number by its own which univocally integrates in its qualitative intensity the plexus of those infused virtues, which, by its turn, unifies the archetypal composition of the *arithmói arkhai* corresponding to each *virtus essendi*, communicating to them each virtue intensity in the form of parameters, these latter to be associated with each perfective function of the structural composition of the entity. In this connection,

²⁰(SANTOS 2007, 209).

²¹The term “mathesis” refers to the extraordinary approach undertaken by Mário Ferreira dos Santos toward a supreme wisdom (“mathesis megiste”), in pursuit of the idea that he, MFS, believed to be the original and genuine aspiration which the authentic Pythagoreans inherited from their master, Pythagoras of Samos (6th-5th century BC). The great and original Brazilian thinker presented his most important theses in four books published by his own publishing company, Matese, in São Paulo, near to his death in 1968. They are: *A Sabedoria dos Principios* (1967), *A Sabedoria da Unidade* (1968), *A Sabedoria do Ser e do Nada* in two volumes (1968), and a book to be published posthumously, *A Sabedoria das Leis Eternas*, published in 2001 by É Realizações, with edition and commentaries by the Brazilian philosopher Olavo de Carvalho, who also added an introduction. To understand what happened previously to the work of MFS, at what stage it was when originally published from 1952 on by a previous publishing company, Logos, also founded and directed by the author himself, and what still remained to be carried out to the publishing of Mario’s Works, etc. one can as well read Olavo de Carvalho’s Work and Philosophy selected and organized by one of Olavo’s students, Ronald Robson, who published the book *Mário Ferreira dos Santos: Guide for the study of his work*, São Paulo: Vide Editorial, 2020. We are convinced that the insights provided by MFS in the context of his matese and metaphysics will be of immense value for our own investigation. This will prove to be true later, when the logical-mathematical unfolding of the perfective virtues of Being into the hylomorphic architecture of natural beings shall be presented. Such perfective virtues have their original source in the supreme transcendent unity of the divine Esse, God’s Essence, to be communicated to beings as powers or virtualized virtues in the participated *esse*, which owns the ultimate meaning and dynamic emergent act of being, which is to be participated by the specific architectures of the created essences, their “eidetic-concrete schemes”, according to MFS’s own terminology.

the participated *Esse* unfolds each *arithmós arkhai* that corresponds to each of the perfective virtues -- which remains integrated into the participated *Esse* as a current and universal formality -- into a *hic et nunc effectiveness* that manifests itself in the spatial expansion and temporal sequencing of each natural entity (or being), and which also manifests concretely in the entity through certain parameters that regulate the relationship between form and matter. We shall see later the need for the reality of the transcendental (or vertical) composition between *esse* and essence, especially from the perspective that this latter is dually composed as a *synolon* in the material substances, on its turn to be manifested in the predicamental composition of the form and matter (protomatter, to be more exact) couple. The rejection of this last composition, namely, the predicamental (or horizontal) structure of beings, simultaneously and indissolubly eidetic and hyletic,

(a) would result in a complete disaster for the understanding of the ontic structure of natural beings,

(b) would be as well against the physical reality brought by the science of the 20th and early 21st centuries, and finally

(c) would undermine the firmest and most consistent intelligible philosophical basis capable of providing real support for the rational justification of the theological doctrine regarding Eucharistic transubstantiation.

Let us now proceed with an investigation of the circle (or sphere, however you want to consider it; the circle is more valuable in understanding the issue), which symbolizes the organization of the unity of reality into distinct strata. Let us leave the center for now and return to it later on. Now, in the circle, all internal points, plus the circumference or periphery, maintain strict dependence on the center, since thanks to this central point all the points exist, safeguarding that they are at a certain distance from the center. The proposal is based on the careful and original exposition carried out by Smith in the books mentioned above, especially in *Physics & Vertical Causation*. In the latter, Smith presents four metaphysical theorems relating to the stratification of the cosmos, which has as its axis what he calls *vertical causality*. In our exposition we will expand this concept, since, in our view, it can be included in the resumption of the role of the act of being (which is *intensive*) that Cornelio Fabro²² purports to be the correct understanding of Saint Thomas' thought on a paired composition of created beings, being the first one the transcendental composition and the second one the predicamental composition, such that both can be distinguished: one, based on Thomas's return to the original Neoplatonic sources,

²²(FABRO 2015).

contained in the works of Proclus, ²³Pseudo-Dionysius Areopagite ²⁴and Boethius, and the other, based on Aristotle. Being, far from being an invention of the Greek language as some may think, is present in the oldest writings, as can be seen in the free translation we now make to Portuguese of the Second Khanda of the *Sixth Prapathaka* in the *Chandogya Upanishad* ²⁵:

1. In the beginning, my dear, this world was only Being (*sat*), a single one, without a second. Certainly, some say: “In the beginning this world was but Non-being (*a-sat*), a single one, without a second; From this Non-Being, Being was produced.”

2. But truly, my dear, where could this be from? he said. How could Being be produced from Non-being? On the contrary, my dear, in the beginning this world was just the Being, a single one, without a second.

3. He thought to himself: “I wish I were many! May I procreate.” He emitted heat. In that heat he thought to himself: “I wish I were many! May I procreate.” He emitted water. Therefore, whenever a person becomes sad or sweats in the heat, then water [i.e., tears or perspiration] is produced.

4. This water thought to itself: “If only I had many! May I procreate.” And food was given. Therefore, whenever it rains, then there is plenty of food. Thus, the food we eat is produced only from water.

On the other hand, it must be remembered that the *Upanishads* are religious and philosophical treatises that form part of the ancient Indian *Vedas*. Like the ancient Greek cosmologists, they accepted now one thing and now another as the primary material from which the entire world is made. And, in the same way as the ancient Greek philosophers, and also with the subtlety and objectivity of childish intuition, they discerned the unity underlying all beings.²⁶

It is thus seen that the emergence of Being (*Esse*) is, in effect, a true intuition about the primordial composition of the world. Being or having being hierarchizes the entire cosmos. Therefore, one can intuit, without error and without demonstration, in an apodictic way, that *something exists*, and that this something is being or has being. Since the direct intuition of the objective reality of being is of an apodictic nature, it then serves us as an unprovable principle for the theorems that follow. Now, if the center of the circle is the primeval source of all reality, He, the Absolute, the Center, is located beyond time and space as *Comprehensor*. From

²³(PROCLUS 2015).

²⁴*Liber de Causis*, which, in our work, was consulted in light of Saint Thomas's comments on the same in (THOMAS AQUINAS 1996), as well as (DIONÍSIO PSEUDO-AREOPAGITA 2004).

²⁵(HUME 2015, 241).

²⁶(HUME 2015, 1; 5).

Him come all things, and He maintains them in being; otherwise, they would not have being, either by genesis or by maintenance; therefore, they would not have existence, as existing consists precisely in the overflow of being throughout the strata of the cosmos, ending at the periphery of the circle, which symbolizes the more or less stabilized stratum of material reality or *Earth*²⁷. The ancient view privileged time as the cause of omnipresent change in nature, and one must consider here not only the usual trivial movement of things from one place to another, but that the very genesis and constitution of the world is subject to a general scheme imposed by Time. This can be easily seen in the famous fragment of Anaximander,

The Unlimited is the principle and element of existing things; nor water or any other of the so-called elements, but some unlimited nature distinct from them, from which arises the sky and the cosmos within it; Outside them, therefore, is the generation of existing things, in which their destruction again takes place according to what should be; for they correct and make amends to one another for their offense, according to the ordinance of Time.²⁸

We will correlate the theorems that we will present later on with the Stein-Fabro formulation ²⁹, which, in turn, has its origins in the Thomist synthesis of Plato and Aristotle for the metaphysical structure of beings, especially, in our case, of natural beings. For now, let's take the interior of the circle, whose primacy over its circumference is evident, since the circumference depends on the definition of a given point, say P, taken at a certain distance from the center, say O. Thus, the radius OP determines a position to draw the circle with center at O and radius OP; let's call it "circle [O, OP]". Evidently, the circumference obtained by tracing the circle through a compass whose opening is exactly the radius OP, defined at the distance OP on a ruler or tape measure, a circumference that we will represent by [O, OP], in square brackets, fixes the limits of the circle, whose interior points do not belong to the circumference, although they belong to the circle. These points are free from any specific determination. It can be said that any of them is at a distance less than OP, but another parameter is needed, such as an angle, for example, obtained with respect to a direction determined with a protractor, to be able to reach the

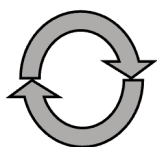
²⁷Insights can be drawn from several passages in (PAGEAU 2018, *passim*), in which the author presents us with an interesting, and convincing, exposition on the character of the Heaven-Earth dual pair, an intuition that we will use in some stages of this article.

²⁸(KAHN 1994, 166).

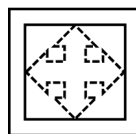
²⁹"Stein-Fabro Formulation" is the name we chose for the hylomorphic architecture that we are proposing in this work based precisely on the Thomist synthesis and the studies carried out by Edith Stein (1891-1942) and Cornelio Fabro (1911-1995) on the metaphysics of entities.

point on screen. Otherwise, this internal point would be free from the specifying determination of [O, OP]. Therefore, each point P on the circle is a *marked point*, which belongs to the end of the circle, given by the circle that is distant OP from the center O, and is *updated* with respect to the center O, while those that are located inside the circle are in *potency* with respect to the distinctive determination OP. It must be considered that what is potential is so with respect to a specific act, a determined actualization, and vice versa. Since the concepts of act and potency are correlated, some interior point of the circle, say Q, is in potency with respect to a circumference of radius OQ measured by the ruler or measuring tape, in such a way that, when the circumference is drawn for the circle [O, OQ], immediately Q updates itself, now being located on the marked circumference. The analogy with the natural cosmos begins to become evident at this point: natural beings or substances composed of matter and form (hylomorphic substances), whatever specific perfections each one of them possesses in the chain of Being, this latter taken as the interior of the circle [O, OP], they end up being located at the circumference of the circle, which is an actualization of the potency given inside. Now, if time is the cause of change, as the ancients thought (see the fragment from Anaximander), then time and change are associated in a relationship of cause and effect, although they are not associated in a relationship of act and potency, since both time and change, whether the first is the cause of the second as the ancients supposed, or whether change is the cause of time, as we will see in this work, both of them have potency, *dýnamis*. Taking our analogy further, most of the entire interior of the circle is potential, considered as the *locus* of the cosmic stratum proper to time or change, to the circumference, considered as the *locus* of the cosmic stratum of space, of what is already actualized and, therefore, is stable. It is no surprise that, according to a certain interpretation of the *Book of Genesis*, especially in depth by Matthieu Pageau ³⁰, time, the root of cyclical transformations, is best presented as a flow of changes through the element of *water*, while space is represented by the stability of the cube (or the square, in two dimensions), which is the *earth element*. Of course, we are now dealing with symbols that refer to structures whose pictorial representation participates, as long as they have the appropriate formal similarities, with the ones that are symbolized, such as the below pictures suggest:

³⁰(PAGEAU 2018).

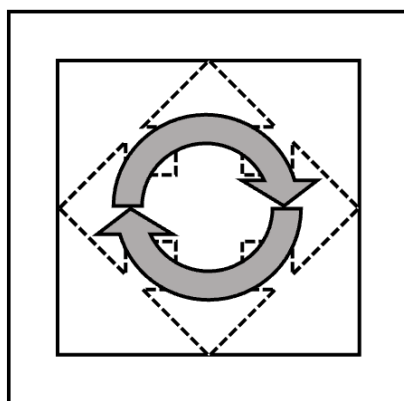


Cycle of Changes
 TIME/MOTION



Stability of Entities
 SPACE/STABILITY

Symbols, however, should not deceive us, but they should come to our aid. In effect, the circumference drawn as a symbol of the cosmic completion marked by a matter *actualized* according to specific, measurable dimensions and quantities, is, in effect, given by the square above, while the unstable element, *potential*, is the interior of the circle, represented by the cycle of cosmic time of becoming. Therefore, a representation that seems appropriate to us suggests considering the following symbol:



Now, the spatial element has at its core the power or capacity to become. In dotted lines, the spatial dimensions are represented and the square, with its solid line frame, represents the stabilized entity, in action, although subject to change, as it is also mixed with power, “situated” inside the circle. In this way, the circle inside the square symbolizes the instant in which cosmic time intercepts local space and fills it as a totality and not just with respect to a specific entity, *hic et nunc*. Thus, all of nature, projected with dimensions marked in space, receives and carries the very instant in which the intermediate stratum, or potency, intercepts it, expanding space, since it tends to stabilize itself in fixed dimensions, while time or *dýnamis* tends to enlarge it to enable movement or change. The spatial closure, so to speak, occurs in a matter determined by the dimensional quantity – *materia signata quantitatae* – or, as Saint Thomas called it, *materia secunda*, to distinguish it from *ens in potentia*, or *materia prima*. In fact, matter, whether first matter or second

matter, is the reason for the change, movement, configuration and quantitative arrangement that we measure in things, including the spatial closure that corresponds to the stabilization of material entities. Thus, we identify matter as the reason why bodies are extensive (spatial closure) and are subject to temporal duration, because without matter there would be no spatial bodies or reason for being for what we call space. It is immediately seen that the concept of absolute space, without bodies, existing in itself and by itself, does not make sense within the traditional *weltanschauung*, since space is the closure of the cosmic circumference that defines corporeality. Some consideration is needed regarding the center of the circle. The center, as we have seen, reflects eternity, more precisely, to be infinitely beyond time and space. However, before making an essential distinction, it must be reaffirmed that time and eternity are distinct by nature. Eternity is not an infinite duration of time, as one might assume, extending in quantity from an infinite amount in the past to an infinite amount in the future. If we consider time as continuous, taken as an infinite time, including past and future, we can represent it by an injective function that goes from the set that contains the instants of time to an open subset T in the set of real numbers $\mathbb{R}$. So, if we have the injective function f such that we have $f : T \subset \mathbb{R} \longrightarrow \mathbb{R}$. Now, this function naturally defines that there are infinite instants, more precisely an uncountable number of instants representing the temporal continuum, which extends from $-\infty$ to $+\infty$. Now, this set, even though it has a transfinite number of instants of time, can be encompassed as a totality by the Eternal One.³¹ Thus, Saint Thomas defines the subject of eviternity as the *evum* (*aevum*):

³¹A relevant discussion of this topic was proposed by Dr. Walter Gomide in (GOMIDE 2006). In his exemplary dissertation, Dr. Gomide examines, among other arguments relating to the question of infinity, Cantor's argument, addressed to Cardinal Franzelin in 1886, in which he states that "I use the expressions "natura naturans" and "natura naturata" with the same meaning that the Thomists gave them, such that the first means God, situated outside the substances created by Him out of nothing, as their Creator and Preserver; the other, on the other hand, means the world created by Him. Correspondingly [to these expressions], I distinguish the "Infinitum aeternum sive Absolutum", which refers to God and his attributes, and the "Infinitum creatum sive Transfinitum", which refers to all things present in [natura creata], given that the actual infinity must be asserted as existing in the world, since, for example, according to our strong conviction, the number of individually created things, not only in every the universe, but even, in all probability, in a tiny region of space, is infinite" (*Op. Cit.*., 37). Now, although Cantor was mistaken regarding the total number of created substances, which is not transfinite, as he thought, his argument is perfectly applicable to temporal infinity. Now, if there were a current temporal infinity, it would be in the form of an *Infinitum creatum sive Transfinitum*, but it would not be an *Infinitum aeternum sive Absolutum*, which is only accessible such as belonging to God. In this sense, the infinity of time would be encompassed by divine infinity, namely eternity itself, which is an *Infinitum Absolutum*, but not an *infinitum creatum*, even if transfinite, as seems to be the case with time in the Aristotelian model. In more direct terms: Eternity encompasses temporal infinity; therefore, it would not be pertinent to attribute to eternity or eternity (as we will define the latter concept) a duration, even if it is infinite in the sense of a transfinite.

Evo differs from time and eternity as a middle ground between the two. This difference, however, some discover that eternity has neither beginning nor end; evo has a beginning, but no end; and time has a beginning and an end. But this difference is accidental, as we have already said, because even if eternal beings had always existed and would always exist; and even if they were to cease to exist one day, which God could do, even so, evo would be distinguished from eternity and time [...] Evo is the middle ground between eternity and time. Now, the being that is measured by eternity is neither changeable nor admits of any kind of change; so, in time, there is before [successive anteriority] and after [successive posterity]; in the evo, there are none, but you can go with them; eternity does not have them, nor is it compatible with them.³²

For now, the above considerations are enough for us to be able to state the following theorems, contained in Wolfgang Smith's proposal³³, from which we start to work out the following:

Theorem 1: THE EVITERNITY OF THE SPIRITUAL STATE is symbolized by the fixed center O of the circle [O, OP], around which we construct the circle with a compass. The evo in itself has not before or after – as we saw above in the exposition of Saint Thomas –, both of which can, however, can be adjunct to it, by means of we shall call ‘adjunct transmutation’. Thus, there are two modes of eternity that are incommensurable with each other: eternity and evo. The center of the circle symbolizes eviterernity and points to Eternity, in which it participates. In other words, the center of the circle is a symbol of both eviterernity and Eternity. However, its symbolic in this work presupposes created natural beings, therefore, at most, it is about the human spirit, based on the consideration of São Paulo that we referred to before. It should only be added that center O is more properly a symbol of eviterernity, since the entire circle is a symbol of the created cosmos, and therefore center O is a part of the cosmos (the Heaven), like the rest, namely, the intermediate stratum and the terminated circumference (the Earth). The Eternal is not part of the cosmos, although the cosmos participates in it, as it also participates in the eviterernity of the center.

Corollary 1.1: THE PRIMACY OF CREATED INTENSIVE *ESSE*, symbolized by the radius of the circle insofar as this, despite not being explicitly presented in the act of defining and drawing the circle, is implied by the drawing itself. Being an act not directly representable, it is, on the other hand, that which grounds and infuses its own cosmogenesis meaning to all points of the circle, including the

³²(THOMAS AQUINAS 1948, I q10 a5 *resp.*).

³³(SMITH 2019, 101-108).

finished circumference. result of the spatiality and dynamics of the hylomorphic stratum, for the causal description of phenomena.

Lemma 1.1.1: THE FOUNDATION OF VERTICAL CAUSALITY, resulting in the presence of the circle radius, insofar as this, despite not being explicitly presented in the act of defining and drawing the circle, is the act that grounds the tracing of the latter. The meaning of a circle determined by its circumference is precisely dependent on the distance (radius) selected for the tracing. The cosmos, therefore, derives its meaning (or meaning) from the founding act of being, or *esse*. Now, each point on the circle becomes “real” due to its cosmogenetic dependence on *the* founding essence. Therefore, becoming real is equivalent to receiving significant content from the creative act. It must be deduced that such content is received in some structure that unfolds it into its multiple facets. That's what we'll see next.

Theorem 2: THE PRIMACY OF THE INTERMEDIATE, symbolized by the interior of the circle [O, OP], swept by the compass, but without any finishing being attributed to it. As stated, corporeality is represented by the circumference of the circle. Now, construction would not be possible without the presence of the intermediate stratum. Therefore, the intermediate stratum has primacy over the corporeal, because in principle it is ontologically prior to it. “Thus, one can conceive of the corporeal domain as emanating from the intermediate stratum through the imposition of the spatial limit”.³⁴

Corollary 2.1: THE PRIMACY OF THE HYLEMORPHIC STRATUM, symbolized by the interior of the circle (O, OP), swept by the compass, but located “close” to the spatial limit defined by the circumference. Now, if the hylomorphic composition is the predicamental metaphysical composition par excellence of natural beings, then it necessarily belongs to the intermediate stratum neighboring the circumference. It can be stated that the circumference represents corporeal *accidents* according to Aristotelian categories, as well as, for this very reason, it defines the domain of the *concrete substance*, the individual thing and the causal network associated with the laws of nature, which depend on the substantial complex and the dimensioned properties.

Lemma 2.1.1: THE NEED FOR QUANTITATIVE DIMENSION, as a result of the spatiality and dynamics of the hylomorphic stratum for the causal description of phenomena. We call this causality *horizontal*, as we can imagine the circumference rectified on a horizontal axis in which the fundamental interactions that can be described by the laws of nature develop. Necessarily, they appear under the domain of the quantifiable precisely because they are the hylomorphic finish defined by the

³⁴(SMITH 2019, 107).

circumference (*materia signata quantitatae*).

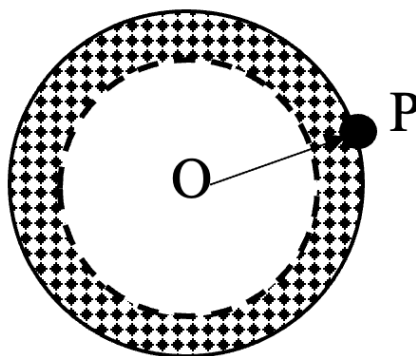
Lemma 2.1.2: THE NEED FOR THE QUALITATIVE DIMENSION, as a result of the presence and interdependence of the corporeal domain of the hylomorphic stratum, given that the spatial substance is metaphysically established by the primacy of the intermediate stratum, in which one finds the composition of (raw) matter and substantial form. Now, form is the radiating center of the qualities present in substances, detected by quantitative parameters that result from it, and that are manifested in accidents external to it, and therefore it is per force determined by the spatial finish of the cosmic circle.

Corollary 2.1.3: THE INTERDEPENDENCE BETWEEN QUANTITATIVE AND QUALITATIVE DIMENSIONS. It follows trivially from the corollary 2.1 and the lemmas 2.1.1 and 2.1.2.

Theorem 3: THE PRIMACY OF BECOMING, symbolized by the movement of point P through the compass. This theorem, presented by Wolfgang Smith, can be shown to be absolutely based on our primary daily experience on the way the world we live in is per force changing and moving. As Smith states, “[Such movement] primarily means an instant of time. However, given that the circumference represents the corporeal domain, it also represents it in its entirety at that very moment. It can be said, therefore, that the moment of time imposes itself instantly on the entirety of space [...defining] an instantaneous 'now' according to spatial length, width and height, a feat that cannot be accomplished by any type of transmission through space [as it is 'instantaneous']”³⁵. Smith also calls this theorem the primacy of time. It is worth remembering that, among the accidents of natural substances, is the temporal mode of being. This means that each entity is subject to becoming, as a result of the primacy of the intermediary over spatiality. In this theorem proposed by Smith, we will only change the focus. Because we consider time in the ways of Aristotle and Saint Thomas, namely, as the number that measures movement according to the before-after succession, then the real fact is change or movement, with time being that which results from the becoming of substances, that is, an accident. Now, what we would like to characterize by this important theorem of the primacy of becoming is the real presence of the hylomorphic stratum in its intrinsic relationship with its effective counterpart in the closure of space and in the scope of movement, namely, with the individual substance, or with other yet unknown substantial mode of being, also to be considered as the concretion of a given hylomorphic structure linked with it in the intermediate hylomorphic stratum. In turn, time and movement are indissoluble, because, in a hypothetical universe in which there was no change or

³⁵(SMITH 2019, 107).

movement, it could not be argued that the lack of time is the ontological reason for corporeal impassibility, as we would never be able to perform a single measurement of not even time itself. Therefore, time cannot be dissociated from movement, nor can movement be dissociated from its measurement for us, given by the time. Saint Thomas states in the book, *De instantibus*, that the instant (now) is continuous in time, but has its origin and participates in evo, and that Boethius maintained in his third book from *On the Consolation of Philosophy* that “time is ordered by evo”. Therefore, we will take the ontological stratum of becoming as the one of our natural reality. Now, if becoming results from hylomorphic constitution, which of the poles would be the foundation of becoming: the substantial form or the first matter? The trivial answer is *prime matter*, for it is *dýnamis*, potency. Now, the definition of movement is precisely this: a transition from potency to act. However, what is in potency is the subject of change, namely, matter. In the case of accidental change, the subject is the dimensioned or second matter. In the case of substantial change, as in genesis or corruption, the subject is non-dimensioned, or *prime matter*. As the purpose of the circle icon is symbolic of cosmogenesis, then the founding matter of the cosmogenetic act is the first matter or “being in potency”, dual of the form in the hylomorphic composition. Evidently, it is not within our scope of this article to analyze some stratum towards the eternal center besides the hylomorphic one. As a symbolic image, the above considerations might be represented as follows:



The circle's dot hatched section represents the hylomorphic stratum, neighboring the periphery of the dimensioned space (spatial closure), in which point P is located, intercepted by intermediate cosmogenetic time. The region between the eternal center O and the circumference in which P is located represents all the cosmic strata that lie beyond the hylomorphic one. Evidently, it is a symbol, taken from the cosmic icon, and what our primordial intuition points out to us is that the hylomorphic stratum, although non-sensitive – essentially transphysical –, is the closest to the cosmic circumference in which the sequences of the so called "secondary causes" occur, related with the corporeal level and, therefore, with the laws of nature

as we have formulated them over the last three centuries, *more mathematico*. This is, evidently, the domain of *materia signata quantitatae*. What we have to analyze in more detail in this first part is the domain of prime matter, undetermined under dimensions, matter not yet specified by any spatial metric, and also the one of the form, the radiating center of the qualities actually present in bodies. On the other hand, the qualities are objective, not subjective as was hypothetically assumed based on the arbitrary exclusion of the hylomorphic domain, which remained as a ghost from the shadow's realm, a mere chimera or metaphysical obscurity, as some hastily claimed. The hylomorphic domain is, in effect, a truly luminous reality for the integral understanding of nature

Corollary 3.1: THE FOUNDATION OF HORIZONTAL CAUSALITY. Horizontal causality, or causality in the natural order, described by the laws of nature, is the result of the interdependence between form and matter, between the qualitative and the quantitative functionalities, which dispose the substance to mutations – or transmutations – that inhere in it due to its cosmogenesis from the intermediate stratum. It develops properly on the finished circumference.

Theorem 4: THE PRIMACY OF FORM, symbolized by the movement of the compass that, in a cyclical way, draws the circumference from point P until returning to the same point P. Smith – who, by the way, in the face of cyclothymia of time, chooses the latter as the primary element of the fourth theorem, and not the form – argues henceforth that

Time does not merely have quantitative or 'measurable' characteristics, but also *qualitative properties*, which play a vital role in the economy of life [...] there are, for example, 'seasons' carried by temporal cycles with their own *qualitative* content, which have their effect – whether we can measure it or not – especially on living organisms, starting with man himself. It makes perfect sense to talk about time as a carrier not only of quantitative determinants, but also of *qualitative ones*.³⁶

The fourth theorem, therefore, focuses on the qualitative aspects of the measurable cosmos. Now, the radiating center of qualities is form, since matter is an exclusively quantitative principle. This does not mean, however, that form, the dual of matter, is an exclusively qualitative principle, given that form is also the *Topos*³⁷ of the functions performed by the species (the carrier functions) together

³⁶(SMITH 2019, 112).

³⁷*Topos* is a relatively new mathematical concept that comprises a series of abstract structures which we understand as being able to partially represent the real ontological foundations that

with the ones performed by the individual (the foundation functions). Now, the form establishes certain cyclothymic parameters relating to both the species and individuals. It is enough to indicate the replicating character of every species, or recurring aspects in individuals of the human species, such as certain rites of the cultural tradition in which they are inserted. Such aspects not only indicate the presence of recursion functions that resemble temporal cycles, but also cannot be exhausted under a few quantitative dimensions, since the latter do not exhaust the novelties that accompany the execution of these recursive functions. It turns out that the profusion of new qualitative aspects that are difficult to capture in their amplitude by mathematical resources, however abstract and general be they, obeys the perfective and intensive character of *esse*. Now, form gives the *esse*, therefore, it is through form that the *esse* emerges in all its fullness, pouring into the essence the meaning of both the species and the individual, an essence that structures the matter subjected to it and implicit in form, revealing the hidden aspects of the founding act of all acts, the *esse*. In this way, the perfections implicit in form are infused and flourish in the concrete realization of the properties received as perfections—for example, the aroma and aesthetic arrangement of the petals, as well as the tone and intensity of the color of a particular individual rose, etc., which are evident in the corporeality of point P, in this case, in this particular individual rose.

It is in this sense that we can understand Smith's words when he states that “each 'mobile' instant [time] is limited and terminated [space] at point P”.³⁸ Point P receives all the load of meanings that can realize it in terms of virtues or perfections that are specific to it, but which will be obliterated by the execution of the formal functions through the material structuring that responds to the former and concretizes them. In the case of material beings, it is impossible, as can be inferred from the fourth theorem in conjunction with the axioms and definitions presented previously, for a single individual (in P) to achieve all the perfection and virtues attached to the founding *esse* of his *species*. Even though the form is equivalent to a certain perfection, however, due to its relationship with matter, especially in the execution of the founding functions that concretize the individual, a plethora of virtues of the essence, although predicable of the form as carrier of the species, won't take place in that particular individual or concrete thing (*tóde tí*).

In a note to section 2 of chapter IV of her book *Finite and Eternal Being*, Saint Teresa Benedict of the Cross (Edith Stein) makes an important distinction between the quiddity (*tó tí en einai*, *whatness*) of the species and the individual

underpin relations between matter and form. See (GOLDBLATT 2006).

³⁸(SMITH 2019, 104).

form (*morphé*). In the case of pure forms (separate substances) there is no such distinction for Aristotle, she recognizes. “However, the first term [quiddity] designates the essence insofar as it is universally understood, while the other term [form] designates something that is a property of the individual thing. And in the individual thing – if it is composed of matter and form – *what* [*what*] and the form do not coincide”.³⁹ One notes, therefore, that the individual must inherit some principle in his own form that distinguishes him from others, despite inhering in him the essence of other individuals of the same species. A solution path is laid out in advance which, in our view, resolves a plethora of difficulties by simultaneously establishing the character of substantiality of certain natural types in harmony with the hylomorphic composition, which traditionally indicates only matter as the principle of individuation. For the hierarchy of natural beings, from the most elementary one up to man, if there was a principle of individuation also on the part of form, then the diversity of forms would adequately be explained and at the same time also the diversity of degrees of intensity of unity and individuality present in nature from the Self-Subsistent Being. Those degrees of intensity are imparted to the created beings, the ones which is freely donated to all beings by the Self-Subsistent Being, and which depend on the latter both to be kept on and to expand itself according to its own multiple perfections. However, the created beings are not self-subsistent, because it is not up to them to sustain themselves or to expand the potential of their perfections independently of the Supreme Reality that donated those perfections by means of their essences. On the other hand, notwithstanding the temporal precedence of Saint Teresa Benedicta’s thought over Father Cornelio Fabro’s, we believe it is relevant to present here firstly Fabro’s formulation on the fundamental composition of created beings, especially those that are subject to hylomorphic structuring, given the capital importance of this composition in the way which this author proposes that Saint Thomas’ synthesis among Plato’s thought, the Neoplatonism which derives from it and Aristotle’s own approach should be carried out. Fabro resorted to the original sources of Saint Thomas’ more mature writings – although, as we shall see, Saint Thomas approach to the metaphysical composition of natural entities were already in seed in his famous youth book, *Ens et Essentia* – to show that the original Thomistic design ended up deteriorating in favor of a problematic formula that generates misunderstandings in the metaphysical composition

³⁹(STEIN 2002, 570 n.34). Just after finishing this present work, a new translation of *Finite and Eternal Being* was published by Walter Redmond as volume 12 of *Edith Stein: The Complete Works: Critical English Edition*, 2023, by ICS Publications, Washington D.C. Yet, in the future, we wish to review the present article under the guidelines of this new critical English translation by Walter Redmond. We kindly request our readers to discard any existing incompatibility in this work with this just published edition.

of entities. The result, in our view, could not have been different: the irruption of currents that distorted the original thought of Saint Thomas to the point of leading to modern atheism, since this proves to be the immediate corollary of that interpretative mistake. We also shall see that, once recovered the crystalline purity of the original synthesis, this latter not only allows bridges to be built between what is established by Theorem 2 and Corollary 2.1, as presented in a previous section, and the several theories of mathematical physics, especially through the use of the unified language proposed by David Hestenes, as well as making us able to understand how the composition between essence and existence, an equivocal composition as we will have the opportunity to show, dismembered the act of being founding in its transcendental composition with the essence, not required a priori or by necessity, as it has been defended for centuries, resulting in an insurmountable dualism, whose extinction made was unavoidable, since the true structuring Logos of that metaphysical composition, which is the Essence, which on its turn unfolds the meaning of each created substance, ended up disappearing from the modern *weltanschauung*.

In his preface to the translation of the complete works of Pseudo-Dionysius the Areopagite carried out by scholars Cohen Luibheid and Paul Rorem⁴⁰, René Roques emphasizes that, in the eyes of Pseudo-Dionysius, all reality is “hierarchical and triadic”⁴¹ with respect to the angelic and human universe. In the symbolism of the cosmic circle, both evo and time are presented with a hierarchical structure, which in our case equally implies the presence of degrees of mediation from the Center, through the intermediary stratum, down to the circumference. Roques adds that such dual reality, angelic and human, “constitute a sacred order, an understanding, and an activity, all regulated by the law of hierarchical mediations, both in the sense of the 'descent' of divine as well as in the 'ascension' of divinization”⁴². This “coming and going” from and to the Transcendent would demand, from the perspective of Pseudo-Dionysius, a process by which perceptible symbols “must be interpreted, corrected, flattened, 'reduced', as well as deny the images, forms, and schemes in which are materially represented the divine realities they are unable to contain.”⁴³ In any case, to propose a way of minimally reaching certain realities that lie beyond the physical, and that are therefore trans physical, our intelligence needs the interposition of perceptible symbols, images, structures and schemes. Evidently, on a purely metaphysical level, and considering the works of the Pseudo-Dionysius, whose axis was theology, his approach needed to be brought to the ground of the

⁴⁰(PSEUDO-DIONYSIUS 1987, 5-7).

⁴¹(PSEUDO-DIONYSIUS 1987, 5).

⁴²(PSEUDO-DIONYSIUS 1987, 5).

⁴³(PSEUDO-DIONYSIUS 1987, 7).

intermediate stratum and the circumference, namely, of becoming and spatial determination, which is a determination marked by dimensions, i.e., submitted to a metric space. However, together with Saint Thomas, it was necessary to observe not only the descent of the participated *esse* towards creation, filling out the beings, but also their return to the Transcendent, to God, especially for rational creatures. We shall only be interested in what Fabro was able to identify in Aquinas' Neoplatonic sources with respect to the vertical causality that allows the *diremption of esse*, to use an expression proposed by Fabro to be clarified later on. This is a Platonic item, ipso facto, which is missing from the Aristotelian's formulation of his *Physics*, this latter constrained fundamentally to the horizontal dimension of nature, even though Aristotle had no lack of effort in conceiving a worldview in which substances without matter ought to be understood, as he sought to investigate in Book Lambda (12th) of his *Metaphysics*.

Saint Thomas understood that he should seek in neo platonic Christian (Pseudo-Dionysius) or non-Christian (Proclus) authors the necessary metaphysical bases to ground his vertical causality, which is the influx of being (*esse*) through form, which is the cause of second order causal processes that develop in the horizontal line (circumference) of space, to be analyzed and understood in terms of a becoming, given that it is not superfluous to remember that in the Aristotle's system of the world there is no creation or emanation of things from the first immobile. In chapter I of his work, *Of the Divine Names*⁴⁴, Dionysius – we remove here the prefix “Pseudo” for simplicity – states that God “distributes the immeasurable and the infinite in limited measures”. Now, it is this limited measure of the unlimited to which the created beings must be submitted. Everything existing in the domain of space and movement presents this limitation, assigned dimensions, according to a certain “measure”, and it is this measure that we will seek to treat in symbolic and representational ways through the use of the theory of *topoi*. At the appropriate time we shall present the functional elements that in representational terms describe the intensity (measure) of the participated *esse* received in each individual created being. In chapter I of his work, *Of the Divine Names*, Dionysius exposes his doctrine on the hierarchy of participation of being. Firstly, he enunciates the primacy of Being-in-itself over all other things, be they the highest archetypes, such as Life-in-itself and Wisdom-in-itself, or over substances, whatever they may be, that participate in it. It is not a matter of things participating in Being according to certain modalities, such as qualities, but rather they depend on it through participation in terms of their own existence. What beings possess primarily is existence,

⁴⁴(PSEUDO-DIONYSIUS 1987, 49 -131).

and this existence assures them of their permanence and that they themselves will be the source of this or that other being. It is only because they participate in Being [the *Esse*] that they exist in themselves and that things participate in them. If they possess being as a result of participation in Being-in-itself, this is all the more the case for the things that participate in them.⁴⁵ Next, Dionysius claims that Goodness [God] infuses the primordial gift of being [the *esse*]. From Him [from the Goodness-in-itself], who is the Being-in-itself and the Source of being, follows all beings and of whatever else has participation in existence. The remainder of chapter I is fundamental to the Thomistic elaboration of *esse*, since Dionysius directs special attention to the unitive character of *esse*. In this latter, things have cohesion and consistency; from them, therefore, one can rise to the Supreme Source, which is the Center which we name the “Comprehensor” in the symbolic circle. It is important to quote the following excerpt,

Since that Source [the *Comprehensor*] is the beginning of everything and from it comes the Being-in-itself [*That* created] and all types of beings, all origin and purpose⁴⁶, all life and immortality [for example, of the human soul] and wisdom, all order and harmony and power, all sustenance and institution and disposition, all intelligence and reason and perception, all⁴⁷ quality and rest and movement, all unity and imbrication and attraction, all cohesion and differentiation, all definition, and in effect every attribute that, by the mere fact of being, thus lends character to every existing thing.

Note that Dionysius establishes the origin of being and a successive gradation from the supreme Source or Center of the entire entitative chain, which is the subsistent Being-in-itself, to the simplest beings. Such gradation implies degrees of intensity or perfection of being, degrees of *virtus essendi*, a notion positively assimilated by Saint Thomas also from his commented reading on the *Liber de causis*, which we shall refer briefly, and which is convergent with the Dionysian elaboration. It is worth highlighting that the Source from which the *esse* emanates is also its universal cause. Universal causality refers to all beings as their origin, be they semi eternal (angels) or existing in time beings (man, animals, vegetables, minerals, etc.), so that everything that exists has its first or universal cause in the Comprehensor

⁴⁵(PSEUDO-DIONYSIUS 1987, 99).

⁴⁶In the case of natural entities and processes, we can specify rigorous criteria of a “target” towards which the processes and entities are directed through what William Dembski (1998, 114-118) called the measure “Complex Specified Information (CSI).”

⁴⁷Note the ordering of perfections: intelligence (intuitive *lógos*, intensive perfection or quality of separate substances or angels), reason (discursive *lógos*, intensive perfection or quality of human thought), and perception (intensive perfection or quality present in the animal genus).

(God). It is up to us to call attention to the fact that the essence emanated from the Comprehensor through creation is another essence, a participated essence, not having the same being or substance as the Origin, but another substance – I say substance as a real gender, to distinguish it from a pure logical concept or something specific –, a real emanation which infuses the degrees of perfection according to the different qualitative intensities and distinct meanings that are unfolded in the created beings, especially through the forms (*forma dat esse*). For instance, see this excerpt from the work *The divine names* with respect to the angelic essence:

From that same universal Cause come those intelligent and intelligible beings, the divine angels. From it also comes the nature of souls, the nature of everything in the cosmos, together with all the qualities said to subsist in other objects or in our thought processes. And from it come all those most holy and venerable powers that have the truest existence and that have their foundation, so to speak, in the anteroom of the transcendent Trinity. Being derives from it. They exist in it. And from it they derive their divine being. Then come the subordinate beings, and these also [receive their divine being] in a subordinate state from the same Cause. Below these there are even more inferior beings whose [divine being] comes from this Cause, but in a more inferior way. If they are the most inferior, they are so in comparison with the other angels, since compared to us they are above and beyond the world [...].⁴⁸

And he goes on to describe an entitative hierarchy in *this* regard from the highest to the lowest beings in Creation, characterizing a typical process of emanation contained in (neo)Platonic thought. Despite the difficulties inherent to the real existence of several strata that originate from a sort of “anteroom”⁴⁹ of the Trinity’s perfection, which is located, in our case, in the Center of the circle, since these strata are part of the eviternity of O, the theorem of the intermediate stratum generated by cosmic time, associated with becoming, ensures that there is also in this stratum some type of entitative qualification according to a decreasing scale of perfection, which ends up in the circumference, in which all of us live in this “valley of tears” of materiality determined by the circumscription of time to space. Hence, in the case of the human substance, we must consider the double and paradoxical aspect of simultaneously possessing a superior divine character (the soul) that derives from

⁴⁸(PSEUDO-DIONYSIUS 1987, 100-101).

⁴⁹The translator of “The Divine Names” into Portuguese, Bento Silva Ramos (DIONÍSIO PSEUDO-AREOPAGITA 2004, 32), draws us attention to the fact that the term “anteroom” has its origins in Proclus.

O, being, therefore, outside of time or cosmic becoming (the circumference) with a non-divine character (the body) which, although derived from O, is circumscribed by the closure of time by space. It is truly a *Heaven-Earth composition*, whose representation has been described in detail by Matthieu Pageau in his book⁵⁰. I must emphasize that Dionysius places the first Cause or Source of all things or the Pre-existent [the Comprehensor or God] not only beyond all time, which is evident based on what has been exposed so far, but also beyond eternity itself: “The categories of eternity and time do not apply to him, since he transcends both, and transcends whatever is situated in them. Eternity-in-itself and beings and the measures of beings and the measured world exist through him and from him.”⁵¹ The reason for this, he explains, is that in several passages of Scripture eternity is an attribute of several things that, being “the home of being [*esse*],” are not coeternal with God, who precedes eternity (ontological precedence, to be sure). Furthermore, such things in effect refer to endless ages. God is located, for Dionysius, beyond and above the eternity mentioned in the Scriptures, from which the author derives several concepts referring to the universal Cause, which is God, and to Whom terms that designate eternity are associated⁵². Being (in the sense of the *esse*), hence, is created by the universal Cause given that He, the universal Cause, does not require any intermediate causes (or gods) for the emanation of beings as such. As O'Rourke notes,

By attributing the mediation of all created perfection to the unique, yet created, perfection of the , Dionysius achieves an original perspective on the immanent and intensive richness [sic] of being. With the intuition of being as primary participation [in the universal Cause] and first creature comes a radical transformation in the relationship between beings and God. Through *esse* , God is immediately and completely active in each one and in all beings in their most radical and interior origin [...] For Aquinas [it is] the notion of *esse comune*, that is, being as intensity and plenitude of finite perfection, which points beyond itself by participating in the simple and full intensity of infinite Being [...] Since being (*esse*) is the primary perfection of everything that is created, for Aquinas the creator is gives the name of Being in the most appropriate way possible.⁵³

Furthermore, Saint Thomas, in his commentary on The Divine Names, after

⁵⁰(PAGEAU 2018).

⁵¹(PSEUDO-DIONYSIUS 1987, 103).

⁵²(PSEUDO-DIONYSIUS 1987, 120-121).

⁵³(O'ROURKE 2005, 117-118).

discarding the need for intermediate entities as multiple universal causes for the creative act of *esse*, claims that the more universal some perfection is the more transcendent it is. Hence, the more separated from individual entities, at the same time, the more it is participated as a cause of the subsequent entities. In the order of perfection, unity and goodness are the most universal, being equally predicated of prime matter. Now, if prime matter has unity and goodness, it is because it has *esse*, received in an essence that must manifest the reason why prime matter has the nature of a potential being, namely, having primary capacity or disposition to receive specifying forms. Specifying forms circumscribe prime matter, *hic at nunc*, with such and such quantitative dimensions. Hence, it can be reasonably inferred that prime matter has no specifying forms in itself. It happens that it is only by means of specifying forms that it can give rise to a complete composition, a complete being, proportioned to its essence and perfection. Therefore, its uncompletion, so to say, gives it the unique perfection of being universally apt for the composition of the natural beings according to specific forms (*eidoi*). There must be, therefore, within prime matter certain operations or transmutations that are quite unique to its essence, making it possible to project, according to certain quantitative dimensions, any specific form associated to a physical compound P in the dimensioned space, this latter symbolized, as we have seen, by the circumference [O, OP]. It must be added that the universal Cause is unique. Even for (neo)Platonists, the Good, or the One, was the cause of all other separate forms, in whose participation specific natures, as well as individual ones, received their own being, although they differed from Dionysius' position by postulating that the perfections of being, good, life, wisdom, and the like had ontological status separately from the universal Cause. For example, in proposition 116 of his *Theology*, Proclus stated that “every god is participable except the One”⁵⁴. Now, this position of Proclus, even though is considered to be somewhat simplified with respect to certain subtleties present in his proposal for a universal scheme of participation, is denied by Dionysius and later on by Saint Thomas, evidently due to the monotheistic Christian perspective, which peremptorily refuses a stratification of *esse* into deified intermediate entities or beings. Despite this, the role of intermediation of the created *esse* between the universal Cause and natural beings continues in Dionysius' proposal, that is assimilated by Saint Thomas, once one considers the “quite humble role of Dionysian intermediaries, as they do not have a true generating power, but strictly an intermediation function”, as René Roques rightly has pointed out⁵⁵. It is this intermediate

⁵⁴(O'ROURKE 2005, 119).

⁵⁵(O'ROURKE 2005, 121).

and mediating character of *esse* that grounds Corollary 1.1 and Theorem 2. It is worth noting, however, that the intermediate stratum does not in itself have an independent status from the center O. It is because it originates in the latter as a created perfection that the *esse intensivus*, this founding perfection of all individual perfections, generates $[O, OP]$ concomitantly to each P inserted in it, that is, each $P \in [O, OP]$ has its existential and perfectible foundation in the intensive essence, with the appropriate modulations to sub-establish the perfectible acts of both the species and the individual; the acts of determination and completion that, in particular, are also present in the accidents or virtues that follow the first and founding emerging act, the *esse*. It is central in connection with this standpoint the idea that the more superior a cause, the more universal it is its reach. In other words, the perfective intensity of an act is directly proportional to its extensive effect as a cause, since its causal extension is exercised according to the universality of its act, which is more perfect the more universal or transcendent are its intensive perfection. In fact, this is reflected in a more powerful and profound way in its own causal effects. In this regard, it is worth quoting O'Rourke, "Being (*esse*) [created being as an act, by the way] is the actuality and fundamental presence of all things, their *indeterminate universal perfection*. Being contains in its completeness all perfection that is determined in the individual according to a particular way."⁵⁶ The cited expression "indeterminate universal perfection" was purposely italicized by us. One shall not confuse the created *esse* as founding and universal act with the uncreated *Esse* of the universal Cause. The *Esse* of God is pure act, determined in its maximum infinite perfection, and it is only applicable to Him as the transcendent origin O of the entire cosmos. The mistake of certain contemporary thinkers was to confuse the created *esse* with the uncreated *Esse*, falsely attributing to Saint Thomas the "error"⁵⁷ of making equivalent the act of being (*esse*), an act that essentially founds the existence of any P, to a pure act. Now, it becomes clear that the universal and common *esse* is not a pure act, but an indeterminate one, not *simpliciter*, since even prime matter is not absolutely indeterminate. The universal formal *esse* extends to all possible perfections of every species and individual mode of being subsumed by it, without being necessary that such perfections be effectively actualized in their maximum intensity in the essence of both actualized species and individuals that unfold them. The act-potency pair implies both relation and correlation. It is relative with respect to what is being talked about, since every created thing is a mixture of act and potency; and it is also correlative because each one of them can-

⁵⁶(O'ROURKE 2005, 124).

⁵⁷(HEIDEGGER 1999, 47).

not be taken separately without destroying its dual character in both the relation and correlation that necessarily exist between each element of the pair. A simple example: a pumpkin seed has the potential to become a pumpkin branch, and the fruit emerges from it, but it cannot have the potential to produce a sparrow. Thus, the *esse* as an act is the foundation of all acts that will come about through the successive actualizations of each specific form whose matter is in potency for it. It is an evident hierarchy in the order of beings based on the *esse*, which is the founding act of all acts. Notwithstanding, the foundational *esse* is not, *simpliciter*, a pure act as some philosophers, like Heidegger for instance used to claim as something to have been proposed by Saint Thomas, as we had previously mentioned⁵⁸.

Fabro's Diremption, Edith Stein and an approach to a Thomistic Synthesis

In order to have a clearer understanding of what follows next, we must observe that, in our perspective, the correct understanding of what Fabro called the “Diremption of the Esse”, presented as a founding act, in itself unknowable to us, constitutes itself as a creative act, since it is an act by itself inscrutable, for the reasons that Plotinus explained in his treatise on Platonic theology . Such an original split is constituted in the primordial reason (Diremption) that separates, through an infinite abyss, but not indeterminate as a power, the Infinite Being-in-Itself as a pure act from the unlimited being-for-us as the founding act of all formal determinations. created by the first. The founding act, which is unlimited-relating-to-us-finite beings though limited-relating-to-The Infinite Being, is the participated *esse*. Thus, the participated essence is not only constituted as something unlimited-for-us but is itself finite in relation to God. On the other hand, that which is determined is so due to its intrinsic unity, which occurs due to participation in *esse*. Therefore, the One who is the *Esse ipsum subsistens* endows each determination of the participated *esse* with its own unity, which in turn becomes, each one, the act of the essence with which this participated *esse* is composed in a transcendental way. The predicamental composition (form and matter, in the case of natural beings) in turn participates in the unity of the essence through the form, being this latter the act of the compound essence. In this way, we obtain a formal hierarchy that presupposes the triad <Esse, *esse*, form>. It should be noted, however, that, regarding formal analogy, there is a real infinite distance between *Esse* and *esse*, which in turn does

⁵⁸(HEIDEGGER 1999, 47).

not actually occur, but only possibly, between *esse* and form. And we say possibly instead of potentially, because the infinity of determinations contained as *virtus essendi* in *esse* is not realized in one single form, but in multiple forms. No form or, if we want to be more precise, no essence exhausts all the possibilities of realizing its received *esse*. Therefore, considered from the perspective of creatures, *sub lumen creaturibus*, the *esse* presents itself as an unlimited ocean of possible realizations that emerge through the created modes of being. The structural richness of essence is not only shown in the diversity of beings, both simple and compound, but also in the attached perfective virtues that are given to them in act or in potency, according to the forms that beings receive, which give them the imprinted perfective unity for each of “this-one-imprinted-virtue”.

For each created being, to be [this being] is to be finite and unitary, and, consequently, to be dependent on the unifying definition [given by the form] by which the being is what it is. Having discovered that being as being must be dependent [on the Creator], Plotinus therefore turns to the One [which can be analogized to the Judeo-Christian concept of God] as the foundation or source on which being [*esse*] depends, that by which all beings are beings. All beings depend on and, in this sense, derive or proceed from the One or Good, as the “definer” (V.1.5.8-9) or “measure of all things” (VI.8.18.3), which makes all things being because it provides the unifying determination by which each entity is itself and, pure and simple, is.

[Furthermore], since being [this one being] is being intelligible and, therefore, finite, whatever the entity, it is dependent on its determination and, therefore, derivative. Therefore, to be [*esse*] is to be derived [participate *esse*].

“[Furthermore], the One must have no form. But if it is formless, then it is not a substance, for a substance must be some particular thing, something, that is, definite and limited; but it is impossible to grasp the One as something particular, for then it would not be the principle, but only that particular thing that it is said to be. But if all things are in that which is generated [from the One – Perl's note], in which of the things [the generated] is the One said to be? Since he is none of them, he can only be beyond them. But these things are beings, and being [*esse*]: thus, he is 'beyond being' [*esse*]”.

The above considerations by Eric Perl, added by the quote from Plotinus, are enough, for now, to support the defense that God does not identify himself with created being, existing an infinite abyss between the Creator and the participation of created beings. When Peter Kingsley in his book *Reality* argues that Parmenides sought to touch the divine, and in fact joined God in anticipation of Plotinus' ecstasy when contemplating the One, what they in fact intuited was the presence of God

in the participated essence, whose intensity and multiplicity of perfective virtues mirror the Infinity-in-Itself, brought in a certain way to the infinity-for-us intuited by those two great ascetic philosophers. Gnosis, as occurs in similar cases, deceives the philosopher-ascetic, leading him to feel that he has united with God, or with the Supreme Being, or with the inexpressible Totality, or with the sought Divinity, when, in fact, he intuitus, beyond all purely sensitive ties, both extension (if we can put it that way) and perfective intensity of *esse*, which, like an inexhaustible torrent, carries out the protraction of forms, an effective operation that expands them in space and sequences them according to temporal order, an emergent perfective act that externalizes the predicamental composition *hic et nunc*, flooding the forms with *virtui essendi*.

On the other hand, when we talk about the indeterminacy of an *essence* until it unfolds itself as an entitative perfection, whether in the species or in the individual, it is, in effect, a *virtuality* that manifests or actualizes a given *potency*. This means that the virtue in question is an *active power* which in the *essence* has not yet been manifested, standing still until then as *undifferentiated*. There is a conspicuous differentiation or, in Fabro's terminology, an essential *diremption*⁵⁹ relative to *esse*, about which we shall talk about later. What is mainly interesting to note here is the formal architecture of the *esse*, constituted by virtual acts that require another formal entitative architecture, in our case a composition with the hylemorphic structure, to differentiate itself in the multiplicity of acts raised by the form, both by its carrier functionality (relative to the species or *whatness*) as well as its foundation functionality (relative to the individual). In this regard, by the way, Saint Thomas understood that such perfections are in fact subsumed in the comprehensive perfection of being (the *esse intensivus* as Fabro refers, or here used, the *intensive esse*), even though it is finite because it is itself created. However, the *intensive esse* is in a certain way infinite because it is ontologically inexhaustible, given that it *virtually contains* all possible perfections of each thing according to its own mode of being, singular to each of them. It can be seen that, from the ultimate exemplary and significant unity that fills all things in the universe, the uniqueness and totality of things that are virtual in the *esse* can be deducted. This is clearly opposed to any perspective that considers reality to be fragmented, random, or chaotic. If a certain combination of attributes is present in a certain place, time, state, etc., they are the result of the indeterminacy and inexhaustibility of the effectiveness of the *esse* as much as it can be grasped by our intellect.

Furthermore, O'Rourke notes that Saint Thomas does apply with greater

⁵⁹(FABRO 2015, 322).

rigor than Dionysius's the Platonic principle of the primacy of unity as the source of multiplicity, and of essential plenitude as the foundation of limited participations. Observing all things as a multiplicity in being, he [Saint Thomas] restores them all, through a fundamental and universal causality, to the essential and transcendent presence of Being in the *Ipsum Esse Subsistens* [God]. All perfections, although diverse and distinct, of any nature, have in common the universal [participated] perfection in being. Being [*esse commune*] is the universal effect [...]⁶⁰.

Now, it is because the *esse commune* is really present as the primary perfection of each being that it can be taken as an abstraction and considered *formaliter* as an act and perfection in itself, regardless of whether it is to be referred to the *Ipsum Esse Subsistens*, who is the Infinite Being (God), or to the *ipsum esse commune* of the finite entities. Now, we shall particularly focus on this last case in view of the very object of our investigation, which is the architecture of the *essence* of natural beings. In particular, we will be considering the formal or abstract structure -- the eidetic structure of the *esse commune* in itself is to be tackled with in a future book on this subject matter. It should be noted that by taking the concept of *esse as formal object* one does not mean to be neglecting its own foundation, nor discarding its full meaning. However, the *esse commune* actually present in each being is not full in the sense of realizing all of its indeterminate (in a way infinite) virtualities, given that it is not possible to particularly endow each natural being with the plenitude of the act of the being participated. Each being receives, according to its own hylomorphic formal structure, what it is entitled to receive from the *esse commune* to activate its particular inherent potentialities, given concomitantly in its definition as a species (an essence) and in its realization as a concrete individual.

The *esse* is a participation and similarity with God, taken to be in the analogical way. Compared to each being, *esse* is unlimited. It is not the entities that determine the *esse*. As its most interior act, instead, the *esse* is the formal and determining principle of beings. All the perfections of beings participate in the *esse* as their founding act. The *esse* has therefore a formal and actualizing infinity relating to all creatures. It is what is most formal in all entities. Saint Thomas was able to claim, therefore, the infinity of the *esse commune* and its primacy before beings, without confusing it with God, whose infinity of the divine being (the absolute *Esse*) is transcendent not only to what each being is in itself but also relating to their acts of being as individuals.⁶¹

Hence, the distinction of the divine *Esse* to that *esse* which is common to

⁶⁰(O'ROURKE 2005, 126).

⁶¹(O'ROURKE 2005, 151).

all beings is evident: the former is subsistent in itself, while the latter subsists only in beings as their ultimate founding act. Thus, the well-known formula, *forma dat esse*, considered solely from an Aristotelian perspective, does not account for the concept of participation, which presupposes the *esse commune* of transcendent origin. Although not subsisting independently of the entities, the *esse commune* is intimately connected to them as their ultimate founding act, the “act of all acts”. The formula mentioned above only expresses that the *esse commune* emerges eminently through form, and not that this latter is the origin of *esse* itself. This understanding is central: the *esse commune* has not existed *ab aeterno* as an ever-existing genesis in Nature, as Aristotle supposed, but it had been infused in the Creation act, upon which it is dependent to unfold the meaning of the world. However, it manifests itself (emerges) through form, since it is through this hylomorphic principle that meaning, purpose and mode of being of specific natural entity are communicated to her. In effect, it is the transcendental composition of created *esse commune* with hylomorphic essence that allows secondary operations in the domain of space and time. Aristotle could not explain this transcendental and participated composition, because he discarded Platonic principle of participation. When Saint Thomas understood that this principle was indeed necessary, he searched for Neoplatonic sources – in particular two: one, Christian, Pseudo-Dionysius’s; the other, pagan, Proclus’s – to solve the demand for transcendental composition, without giving up the Aristotelian predicamental composition, which in effect demanded that form be the source of being, and in a certain way it really is, not in terms of its absolute and first causality (transcendental), but in terms of its relative and secondary causality (predicamental).

We may also claim that the *esse* cannot, in itself, be multiple, but unique, univocal. Because it does not exist separately from things, being limited by them in its perfection and act, distributing itself in them in such a way that we recognize it to the extent that each being is, each being has *esse*, but we recognize them differently, distinctly, according to each mode of being present in each one of them. Therefore, being is analogous in terms of its founding act. There is here an apparent paradox: *esse* as both univocal and analogous. In effect, it is like that but considered from different views. *Esse* is unique to its origin, since it is an unlimited act of both virtual and formal perfections. Nevertheless, such universal perfections do not subsist by themselves, except in each essence turned into a concrete being, simultaneously contracting and expanding the *intensive esse*: it is contracted because the act of being is limited by the essence of which it is the founding and emerging act, and expansive because, being unlimited in its origin, it distributes throughout all natural

beings according to each specific and individual essence, not being exhausted by each one or all of them, even though it is distributed in an immense multitude of beings⁶².

Saint Teresa Benedicta of the Cross (Saint Teresa Benedicta, for short), in turn, on investigating intensively not only the individual in its basic composition, in its metaphysical foundation, but also the personal self of human beings in their relationship with the eternal Being (God), understood that this issue could not be handled appropriately except in connection with the analysis of individual beings in general⁶³, the object of our study in this work. However, we shall pick out the main traits of the hylomorphic structure proposed by Saint Teresa Benedicta of individual that we understand are closely linked with concept of *Veiled Reality* proposed by the French physicist Bernard d'Espagnat⁶⁴, since the analysis of the metaphysical (or essential) structure of natural beings goes beyond methodological approaches of the empirical sciences, despite the former being complementary to these latter. Our hypothesis is that Veiled Reality corresponds precisely to the eidetic structure of natural individual beings. Such structure is a complex architecture of both transcendental (*esse* and essence) and predicamental (form and matter) functionalities taking the general guidelines of *topoi*⁶⁵, which we will deal with in a detailed fashion in a later work, but that can, for now, be taken as a general mathematical category to be considered as the locus for the morphisms seen earlier in this article. Regarding the foundation of individual beings in general, it can be said that foundation is a topos whose structure allows them to become individuals, since it allows for the finished or ultimate perfection of each substance, that is, the ultimate perfection of the transcendental composition *de-veiled* under the veils of the predicamental aspects that project in space and time the interior articulation between form and matter, both outside the possibility of measurement, once this articulation is itself a pure intelligible presence. It is of no little importance to emphasize that the predicamental topos represents the composite essence of natural entities. Saint Thomas, however, claimed that “That which exists in the particular substance [in the individual] beyond the common nature [the essence] is the individual matter [expressed in quantitative accidents] which is the principle of singularity [our italics] and, therefore, [constitute] the individual accidents that determine that said matter”⁶⁶.

⁶²In the Book of Genesis, God promises Abraham that his generation would be greater than all the grains of sand on all the beaches of the world added to the multitude of stars that shine in the sky. Now, it is clear that the entire multitude of beings, including the souls of all men and women who have ever existed, exist or will ever exist, make up an extraordinary number. However, this colossal number of entities does not exhaust the perfections and virtualities of *esse commune*.

⁶³(STEIN 2002, 469).

⁶⁴(D'ESPAGNAT 1995; 2006).

⁶⁵(GOLDBLATT 2006).

⁶⁶(TOMÁS DE AQUINO 2018, q9 a1 *resp.*).

For Saint Thomas, therefore, it is the matter assigned by quantity (*materia signata quantitate*) that is the radical principle of individuation (*principium individuationis radicale*), given that the assigned matter turns the form numerically distinct here and now (*hic et nunc*) into certain unrepeatable or incommunicable separable and indivisible beings, the individuals, as Sarah Sharkey rightly argues⁶⁷. However, Saint Teresa Benedicta, when focusing on the nature of the individual, abandons, in turn, the matter determined or assigned by quantity as a principle of individuation for the following main reasons: Firstly, the insufficiency of the assigned matter, since this principle notwithstanding meeting the criterion of incommunicability or impre-dicativity, it does not meet that of indivisibility; secondly, Saint Thomas does not explain how the form that turns matter (indeterminate) into a certain determinate matter, in contrast to any other matter, is the cause of individuality of this matter. Note that Saint Thomas states the following:

Since in the individual compound there are only three things (matter, form and compound), the causes of their diversity must be found. Likewise, it must be evident that gender diversity is reduced to material diversity; however, diversity according to species is reduced to diversity of form; and the diversity according to number is partly due to the diversity of matter [but not of form] and partly to the diversity of accidents. [...] it is said that matter is the principle of diversity according to genus, and form is the principle of diversity according to species, because it is due to the formal qualities that material things possess in addition to those that are the It is because of their gender because they are material things, or because of the relationship between form and matter that the differences that constitute the species are derived. [...] thus, it is evident that matter produces gender diversity and forms species diversity. However, among individuals of the same species, one must consider what the Philosopher explains (Book VII of *Metaphysics*), namely, that in the same way as they are parts, respectively of the genus and species, matter and form are parts of the individual this matter and this form [...] no form is individuated by the fact that it is received in matter, except insofar as it is received in that matter [...] furthermore, matter is not divisible except by quantity ; Therefore, the Philosopher says in Book I of *Physics* that, if quantity were removed from any substance, it would remain indivisible; consequently, matter becomes this matter and is marked, insofar as it exists under dimensions, which can be considered in two ways: firstly, according to their termination [determination], and I say that they are terminated according to a measure and a figure limited; thus, as perfect beings, dimensions are classified in the

⁶⁷(SHARKEY 2010, 48-52).

genus of quantity, and, in this way, they cannot be the principle of individuation because such termination of dimensions can frequently vary with respect to the same individual, and in such a case it would follow that the individual would not remain the same numerically. In another way, dimensions can be considered without this given determination, merely in the nature of the dimension, although they can never exist without some type of determination, just as the nature of color cannot exist without the determination to white or black, and, according to this aspect, the dimensions are classified in the genus of quantity as imperfect. And through these indeterminate dimensions, matter becomes this marked matter, providing individuality to a form, and thus through matter, numerical diversity is caused in the same species.⁶⁸

It can be seen, therefore, that the above considerations point out the relevance of Saint Teresa Benedicta's general argument against the principle of individuation resting solely on the assigned matter, due to the criterion of *impredicativity* or incommunicability of the individual thing. Now, based on the exposition of Saint Thomas and the character of ontological insufficiency, there must exist another mechanism for individuation, which means that for the functional composition internal to the substance, the indeterminate dimensions can be taken as parameters of the morphism $\mathbf{Z}_2 \circ \Gamma_1$. And provided that Γ_1 represents properties as parameters related to form, these latter can meet the requirements of Saint Teresa Benedicta's proposal, as the form would respond to the criterion of unrepeatability and indivisibility of the individual, in addition to the criterion of *impredicativity* of the matter. Furthermore, the hierarchy of the individual's unity would be strong and clear against certain false units or units with very low cohesion, such as clusters, even those composed of a single substantial form, such as gold bars, for example. On the other hand, Γ_0 accounts for the communicability of the species to a multitude of individuals who participate in it. In this way, the morphism $\Gamma_1 \circ \Gamma_0$ represents the substantial form in its functional unit as the *topos* accounting for individual substantiality. Strictly speaking, the greatest difficulty in sustaining the original Thomistic thesis concerns individuals who are people, not just individuals whose existences are not open to participation in God's transcendence, since the latter are confined to the material reality from which they have been generated and into which they will disintegrate because of their purely immanent reality. This is why Sarah Sharkey asserts in her essay on individuation (especially of the individual-person) that:

Form provides the type of unity relevant to the unification of being as a species;

⁶⁸(THOMAS AQUINAS 2012, 184-186).

It is by virtue of some formal component that locusts are indivisible in contrast to heaps of gold. Matter, by its nature, is divisible; in this way, matter would not constitute a particularly effective principle of individuation.⁶⁹

Veiled Reality and the Transcendental Composition

Physicist Bernard d'Espagnat in two of his books (1995; 2006) presented the concept of Veiled Reality, a type of non-conceptualizable fundamental structure that would give ontological support to physical phenomena, namely, to phenomena measurable by experiment, even though Reality itself was not detectable by any existing measuring device, even by those yet to be designed. It is our conviction that both the concepts of implied order, proposed by physicist David Bohm⁷⁰, as well as that of Veiled Reality, by d'Espagnat, refer to certain structuring elements belonging to the same total intelligible-in-itself structure, but not in itself same intelligible-to-us, immeasurable and undetectable, located beyond space-time, which provides a generative order for the entirety of space-time itself and the corporeal content present in the latter. This intelligible-in-itself structure signals an intelligible-to-us physical conformation in the phenomena from the intelligible elements that make it up, according to a certain composition with the essence or nature of matter. If this hypothesis is correct, then one of the conspicuous aspects of this “ground of material things” that lies beyond spacetime is the phenomenon we identify as quantum non-locality. According to physicist Marcelo Gleiser⁷¹, “[We] must accept non-locality as part of physical reality, just as there are long-range quantum effects that appear to exist outside the limits of space and time”. Furthermore, Henry Stapp states that “[Philosophers] are... in the position of... [deducing] by close analysis exactly what constraints are imposed on ontology by the structure of quantum phenomena”⁷². In effect, Veiled Reality is about the Real that presents itself beyond space and time. However, in a different way, in effect, it is spatio-temporally present objects, processes and events that are revealed as observable and measurable phenomena that are what experimental science is about. What would characterize, then, this new proposition by d'Espagnat?

⁶⁹(SHARKEY 2010, 53).

⁷⁰(BOHM 1980).

⁷¹(GLEISER 2015, 235).

⁷²(STAPP 1989, 154-174).

Firstly, such a framework (*Gebild*) or structure is not itself located in its entirety, but only in part, in space-time, which can be inferred by noting that certain experiments involving the quantum phenomenon detect non-local (or *ex hypothesis*, instantaneous)⁷³. In this way, space-time is the privileged arena in which phenomena occur; however, it is also not in its entirety the arena in which a reality independent of it also unfolds in part from its totality. Both space, time and space-time are human cognitive ways of apprehending this independent, or veiled, Reality. The *Veiled Reality* partly exceeds the human capacity to understand it in all its complexity and determination; based on this (and not on the concept of indeterminism) it can be concluded with Wolfgang Pauli that Reality is something irrational. Irrational, it ought to be here reiterated, concerns only the rationalized (discursive) framing of Reality. However, experimental sciences investigate it, since phenomena are manifestations of the *Veiled Reality*, but the information captured by the modern experimental methods seems to be limited to certain partial components of Reality, not being able, therefore, to exhaust it in its full significance. Evidently there is, then, one R that is independent of the degree of superposition between the observer and the observed, and which also manifests some kind of order underlying the phenomenon X . Note that we use the term “order” in opposition to “chaos”, although chaos should not, in this work, be taken as a synonym for irrational, as even irrationality does not mean simply the non-existence of order, but rather the presence of an order that goes beyond the discursive capacity to grasp it completely, however partially. Now, each grasped “part” must take part into the composition of the *Veiled Reality*. Therefore, each part presents its own structuring through an intrinsic law that gives it the compositional totality of its unity, as well as its law of proportion with the other entities that also reveal participation into the *Veiled Reality* that subsists beyond the space-time determinations that science attributes to the phenomena X , there remaining, therefore, hidden from the experimental investigation of the current scientific modeling.

The presence of R induces an order or law that is revealed in the space-time-matter triad, which subsists as a special stratum of R . This manifestation of R can be inductively inferred from the effects it causes in the space-time-material stratum, although it coexists with it, both from inside and from outside. The experimental method cannot measure it with respect to its inherent aspects since measuring implies counting and calculating distances and angles in a timely ordered manner. Therefore, the law expressed by R cannot exhaust the totality that would be given by $R \oplus M$ ⁷⁴, in which M is the stratum which contains the set of measurable magnitudes. Now, what the Pythagoreans called the “law of harmony” was, according

to Aristotle, a numerical proportion, since, for the Pythagoreans, “the elements of numbers were the essence of all things”⁷⁵. However, David Fideler calls out our attention to the fact that “the Pythagorean understanding of number is quite different from the predominantly quantitative one we have today. Rather, for the Pythagoreans, number was a living qualitative reality that had to be approached experientially”⁷⁶. Now, one can obtain R by inductive inference to which certain experimental data can also be obtained and confirmed by quantum mechanics on the manifested M through the presence of non-local correlations. Therefore, an Order or Law that describes the manifested order in the realm of space, time and matter is deduced from $R \oplus M$ in precisely the same way proposed by Isaac Newton in Book III of his *Principia*⁷⁷. However, the manifested $R \oplus M$ cannot be grasped otherwise but through quantitative methods. On the other hand, these latter order and law that are manifested in M point to the qualitative intrinsic proportionality laws of R . This is the central thesis proposed by the physicist Bernard d’Espagnat, which he called *Veiled Reality*.

Final remarks

As final remarks for this study, we must make some considerations about the concepts of first or transcendental causality, which we shall also call vertical causality, and about second or predicamental causality. We will not call this latter “horizontal” because it is necessary to distinguish, in the proper horizon of second causality, two types of structural laws: the hylomorphic laws, which we have been outlined in this work and that belong to the proper field of predicamental unfolding, and the phenomenal laws, described by natural laws formulated through the experimental method, either through experimentally confirmed hypotheses or through induction from the phenomena themselves. Let us take an excerpt from Saint Thomas's general commentary, written in the first half of 1272, in the acme of his philosophical maturity, on Proposition 4⁷³ of the *Liber de causis* (“Book of causes”)⁷⁴, in which he asserts on the infinity and finitude of being [this being] that

⁷³General title of the proposition: “The first of the created things is being [*esse*], and there is nothing previous to it that was created”.

⁷⁴(THOMAS AQUINAS 1996). The work, possibly written in the 12th century by an unknown author, acquired this general title because it frequently referred to first and second causes. There was a suspicion that it had been written by Aristotle himself as a complement to his *Metaphysics*. Saint Thomas, as well as other important names such as Saint Albert the Great, did not attribute it to the Greek master. The book certainly had its source in Proclus's *Elements of Theology*, but its author “greatly reformulated Proclus' perspective, as well as that of the Neoplatonists, on reality, conforming them to a creationist vision, more in accordance with the Bible. Any interpretation

If something had an infinite power of being [*esse*] such that it did not participate in the being [*esse*] of another, then it alone would be infinite. Such is God [...]. But if there is something that has infinite power to be [*esse*] according to a being [*esse*] that is participated in by another, insofar as it participates in the being [*esse*] it is finite, because that which is participated [*esse*] does not it is received in the one who participates according to his entire infinity, but in the form of something particular. Therefore, an intelligence [here refers to separate substances or angels] is composed of the finite and the infinite ⁷⁵and its being [*esse*] since the nature of this intelligence is said to be infinite in its power of being [*esse*], but the [this] being that it receives is finite. It follows that the being [*esse*] of an intelligence can be multiplied to the extent that it is a participated entity, as this is the meaning of the composition of the finite and the infinite.⁷⁶

The above consideration is relevant to our investigation for the following reason: vertical causality in natural reality consists precisely in the infusion of being [*esse*] into a hylomorphic composition. In itself, such causality is in a certain way infinite, since it is indeterminate in its multiplicity and diversity of virtualities that must accommodate the colossal multitude of ways of being, both from the point of view of substantial being and accidental being. Furthermore, such formal infinity has as its counterpart another potential infinity, which is prime matter. It should be added that this multiplicity of perfections contained in the *esse* is realized through degrees of perfection, whose intensities are determined by the *esse*, which, in creatures, and especially in material realities, is contracted into a hylomorphic essence. Suffice to say that the intensity of the perfections virtually contained in the *esse* enables it to expand it in the infinite variety of modes of being in nature. These intensively realized modes of being are equally subjected to the dialectical contrariety of the tensional elements that make up each natural being, making each one of them unique as a synthesis of the *esse* through their hylomorphic natures, which receive it and configure it in space and movement (or time, if one will).

The *esse* is both a finite-infinite and an infinite-finite pair. The first meaning is given because it is something created, therefore, less than God, who is the true infinite-infinite noun, pure act. Although finite, the *esse* is diffused in a coun-

of this book therefore requires careful attunement to a reworked and sometimes hermeneutically inconsistent mosaic in which the author superimposed the thought of Proclus”, as stated by Vincent Guagliardo apud (THOMAS AQUINAS 1996, xiv).

⁷⁵Thesis that appears in Proclus' Elements of Theology (Propositions 86 and 87) and assumed by the author of the *Liber de causis* in Proposition 4. See the comments of Saint Thomas in (THOMAS AQUINAS 1996, 33).

⁷⁶(THOMAS AQUINAS 1996, 33).

tless ocean of achievements and virtualities of implementation, and one must also consider not only how *whatness* should be accomplished but also that the necessary virtualities to accomplish it in its fullness are formally contained in the *esse*. Furthermore, achievements occur in gradations of finite perfections or active potencies, which are *intensively* arranged in created things. These latter can be perfected according to their own received active potencies, for these can only be completely exhausted by means of an unlimited extension of created beings. The second meaning, that of an infinite-finite, is given because the *esse*, in order to be able to make effective all the virtualities of Creation, cannot be limited except by the Creator, who circumscribes it to an unlimited ocean of possibilities of concrete and finite realizations. On the other hand, such concrete and finite realizations, according to each singular case, occur in a specific finite essence, in which such realizations of the *esse* are contracted by the essence in terms of its internal formal structure, their specific topoi. These topoi allow for the realization of the essence, which, in turn, can be represented by both its hylomorphic structuring and topoi. Here follows an observation that corroborates the multiple virtualities of realization⁷⁷ of the participative *esse intensivus* in the hylomorphic structure: despite the *esse* being received in the form, it is through the potential being of prime matter that a wished natural being (by the Creator) is carried out through the projection of predicamental composition (the substance) in space and movement (or time) with a finite essence. Now, since prime matter is a principle of indetermination, it receives the participative *esse* in its own essence or elementary nature. To this latter an indistinguishably plastic potency is associated which makes effective the possibilities designed in the topoi of the form and that, by means of prime matter, are projected into the domain of space and movement (or time) thanks to the *intensive emergence*⁷⁸ of the participative created *esse*.

Based on what it we have explained above, the concept of Anaximander's *apeiron* (Anaximander, 6th century BC) might be considered to be close to the concept of *esse commune*, given that it could be seen as similar to an infinite or unlimited that would give rise to the material reality, that our senses indicate as being made up of finite entities. For Anaximander, there would be an infinite supply of this primordial element (*arkhé*), in itself unlimited and infinite. In this case, the second meaning seen above, infinite-finite, would seem to correspond to the *apeiron*. Solmsen argued that it would be “doubtful whether he [Anaximander] or any of his predecessors really needed the Infinite [sic] as an inexhaustible source of [material]

⁷⁷Having us seen that *forma dat esse*.

⁷⁸Expression taken up from Cornelio Fabro in (FABRO 2015, 245).

supply”⁷⁹. However, contrary to Solmsen, Kahn claimed the *apeiron* to be

Primarily an immense and inexhaustible mass that extends endlessly in all directions. It has the epithet (and majesty) that land and sea possess for Homer. We see clearly why such a source is required for the maintenance of the world, 'so that the generation of things does not cease' (Arist. *Ph.* 207a19-20) [...] The Unlimited [sic] is in fact what we call of infinite space, the antecedent of the atomistic void, as well as of the Receptacle or Nurse of generation in Plato's *Timaeus*.⁸⁰

Given the extensive argumentation provided by Kahn⁸¹ in favor of the infinite or unlimited character expressed by the *apeiron* despite Solmsen's observation⁸², which in turn seems to be based on another author⁸³, we'd rather stand with the contemporary interpretative tradition as presented by Kahn and take the *apeiron* as indeed to be infinite or unlimited, however as a purely quantitative reality in a state of dialectical tension with the intrinsic qualitative character of the *intensive esse*. This is the way Aristotle thought ought to be approached in his *Physics* when profiling in Book II the doctrines of the scholars he called the “Physicists”. Aristotle stated that the primordial element, *apeiron*, would be something of a purely quantitative nature. Now, the *intensive esse* is a qualitative infinite-finite. Therefore, we can see the impossibility of reducing the formal concept of *intensive esse* to a quantitative concept *simpliciter*, namely, something that would fall within the scope of what can be investigated by the scientific-experimental method of a purely “empiriological” scope, to put it in terms of Jacques Maritain's terms⁸⁴. Hence the option of many scholars is to exclude the *esse* from the domain of reality, exiling it to a metaphysical realm of shadows. It also follows our response to Heidegger that the “forgetfulness of Being” could never be attributed to the Ancients and the Medieval, but this expression can only be consistently considered as a spurious product of a bad philosophy that exalted the modern scientific method beyond any acceptable limit, and when one is unable, due to physical constraints, to reach for the metaphysical reality of the presence of the *esse*. The *esse* has ever been forgotten by a classical thinker like Saint Thomas, but only after him, especially by the Moderns. This is a discussion that we would not like to scrutinize or to extend

⁷⁹(SOLMSEN 1960, 328).

⁸⁰(KAHN 1994, 233).

⁸¹(KAHN 1994, 231-239).

⁸²*Loc. Cit.*

⁸³Cherniss apud (SOLMSEN 1960, 328).

⁸⁴(MARITAIN 1995, 156-184).

here, just that the opportunity arose to point out a mistake, even though it has been echoed in the face of the gap generated by the emptying of that notion, the *esse*, to which nothing effective could be presented as a counterpart. to the brutal simplification and metaphysical flattening that has accompanied it. What remains is the mediocrity caused by the abandonment of metaphysics as a genuine stratum of investigation, notwithstanding the possibility of achieving it through the application of symbolic mathematics under the form of a *mathesis megiste*, to use an expression by the Brazilian philosopher Mário Ferreira dos Santos⁸⁵, which shall also be object of study in a future work.

Not only has Saint Thomas been correct when proposing his synthesis between transcendental causality and predicamental causality as a pillar for the comprehension of the structure of reality, as well as Pythagoras had also been correct when proposing that symbolic language, brought from Heaven by the archetypes of things, could be understood by mathematics taken up as a wisdom. This latter understanding is the other pillar for understanding reality. However, it must be emphasized, precisely based on the structure outlined in the definitions, axioms and theorems presented above, that this is not the case of any purely numerical mathematics. It is about sublimating certain highly abstract mathematical structures, like the topoi, relating them to concrete things, raising them to be considered eidetic-noetic schemes of symbolic representation. A part of the symbolism of the *esse* is implemented in these structures as predicamental causality is concerned. However, when investigating predicamental structuring through mathematical wisdom, it should also be possible to grasp certain archetypes present in a symbolization by means of topoi representing the transcendental causality.

Would it then be possible to epistemologically investigate the *esse* and the essence, since they both are trans-physical infinities? We have seen that there are two distinct pairs with distinct meanings that tell us something about the *esse*, finite-infinite and infinite-finite. Let's call both senses "morphisms". Thus, there is a function χ relating to the first sense and a function ξ relating to the second sense, such that the composition of functions can be represented by a left-right bracket operator, $\langle \cdot, \cdot \rangle$. Thus, $\langle \chi, \xi \rangle$ results in a finite-finite pair function $\eta = \langle \chi, \xi \rangle$. We can compose the two infinities because they are the same reality taken from different perspectives. Thus, even if it is not possible to represent all the realizations of the finite essence in all its virtualities, we can then assume that there cannot exist a virtuality that cannot be realized, nor a realization that is not present in the created essence because, otherwise, it would entail that something could be outside divine

⁸⁵(SANTOS 2000, 237-238).

knowledge, which is impossible. Thus, based on the presented definitions, axioms and theorems, then combined with the given considerations, we shall indicate in a later work a solution path for the representational architecture of the hylomorphic structure, which on its side could be another pair, syntactic-semantic, since the architecture itself, most of it represented through topoi and their morphisms must as well point out to the meaning of each natural reality.

Therefore, what could be highlighted as aspects of R , based on Bernard d'Espagnat's characterization, as we have formerly seen?⁹¹ Firstly, R cannot be detected in space-time, as experiments related to quantum-mechanical phenomena do detect the presence of non-local (instantaneous) correlations. Thus, space is the arena in which phenomena occur, but it is not (neither are space-time structures) the arena in which an independent reality as R unfolds. Space, time and space-time structures are human cognitive ways of grasping this independent reality. Furthermore, R partly exceeds the human capacity to ultimately express it. Based on this independence of human cognition, one may conclude, together with Wolfgang Pauli, that Reality contains in itself, in effect, something that is irrational,⁹² namely, something outside human cognition structured by our available languages, either ordinary or scientific.

Lastly, despite experimental sciences having to do directly with matter quantitative dimensions expressed by R through M , the information obtained therein seems to be limited to some general structures of $R \oplus M$, therefore not being able to entirely exhaust all those possible quantities, despite the careful specification within which those dimensions are tracked and subjected to objective measurement. In effect, it is about the Reality, the R that remains beyond space and time that keeps itself veiled from the experimental investigation of the current scientific model, even though the objects, events and processes that are grasped by the experimental sciences, and that are a subset of $R \oplus M$, might be considered, from the point of view of the experimental sciences, the "real" ontological X , $X \in M$. However, these X are partially composed of what subsists beyond space-time determinations experimental sciences assign to them. Indeed, there must be the ontological X (independently of the observed–observation superposition) that manifests in themselves an underlying order, showing that reality R entails a *law of intrinsic proportionality*⁹³ for X , namely, the internal ontological law for the form, which we claim to be represented by morphisms and their topoi. Now, the law of intrinsic proportionality of something is given, in Aristotelian terms, by its form (*eidos*), according to a horizontal arrangement of predicamental or horizontal order, while the composition of the *esse* and essence has a transcendental or vertical order that expresses the law of transcen-

dental composition or, in Pythagorean language, the *arithmós arkhé*. Therefore, in our point of view, and in line with d’Espagnat’s proposal, the induction of Reality R from experimental data (through an Inference to the Best Explanation, IBE), pointed out by quantum-mechanical experimental arrangements, entails an order or law that unfolds itself through assigned matter in space and time, but which lies beyond this triadic relation (space–time–matter), since the experimental method in turn points out to that order, and yet it does not exhaust the law of intrinsic proportionality of X by applying the method to this latter. This is a critical blind spot properly intuited by d’Espagnat, which entails, in pure and simple terms, the rediscovery of the hylomorphic structure, now renewed by the experimental method of modern experimental sciences.

References

- Aristóteles. 2005. *Metafísica* 3v. Tradução e comentários Giovanni Reale. São Paulo: Loyola.
- Bohm, David. 1980. *Wholeness and the Implicate Order*. New York: Routledge.
- Chaitin, Gregory. 2004. *Algorithmic Information Theory*. Cambridge: Cambridge University Press.
- Dembski, William. 1998. *The Design Inference: Eliminating Chance through Small Probabilities*. New York: Cambridge University Press.
- Dionísio Pseudo-Areopagita. 2004. *Dos Nomes Divinos*. Tradução, notas e comentários Bento Silva Ramos. São Paulo: Attar Editorial.
- D’Espagnat, Bernard. 1995. *Veiled Reality*. Reading, MA: Addison-Wesley.
- D’Espagnat, Bernard. 2006. *On Physics and Philosophy*. Princeton, NJ: Princeton University Press.
- Enderton, Herbert. 2011. *Computability Theory: An Introduction to Recursion Theory*. San Diego: Academic Press.
- Fabro, Cornelio. 2015. *Participation et Causalité selon S. Thomas d’Aquin*. Langres: Parole et Silence.
- Fideler, David, ed. 1987. *The Pythagorean Sourcebook and Library*. Michigan: Phanes Press.
- Gleiser, Marcelo. 2015. *The Island of Knowledge*. New York: Basic Books.
- Goldblatt, Robert. 2006. *Topoi: The Categorical Analysis of Logic*. Mineola: Dover.
- Gomide, Walter. 2006. *Infinity as Told by God: A Dedekindian Interpretation of Cantor’s Transfinite Ordinal Number Concept*. Rio de Janeiro: PUC-Rio.
- Heidegger, Martin. 1999. *Introdução à Metafísica*. Rio de Janeiro: Tempo Brasileiro.
- Hestenes, David, and Garret Sobczyk. 1987. *Clifford Algebra to Geometric Calculus*. Dordrecht: Reidel.
- Guthrie, Kenneth. 1988. *The Pythagorean Sourcebook and Library*. Michigan: Phanes Press.
- Hume, Robert E. 2015. *The Thirteen Major Upanishads*. Middleton: Forgotten Books.
- Jost, Jürgen. 2015. *Mathematical Concepts*. Monee, IL: Springer International.
- Kahn, Charles. 1994. *Anaximander and the Origins of Greek Cosmology*.

Indianapolis: Hackett Publishing.

Maritain, Jacques. 1995. *The Degrees of Knowledge*. Notre Dame: University of Notre Dame Press.

Newton, Isaac. 1995. *The Principia*. Buffalo: Prometheus Books.

O'Rourke, Fran. 2005. *Pseudo-Dionysius and the Metaphysics of Aquinas*. Notre Dame: University of Notre Dame Press.

Pageau, Mathieu. 2018. *The Language of Creation*. Middleton: Matthieu Pageau.

Pauli, Wolfgang. 1994. *Writings on Physics and Philosophy*. Berlin/Heidelberg: Springer-Verlag.

Perl, Eric D. 2007. *Theophany*. New York: SUNY Press.

Perry, Whitall. 1986. *A Treasury of Traditional Wisdom*. New York: Harper & Row.

Proclus. 2015. *Platonic Theology* I–III. Buenos Aires: Losada.

Pseudo-Dionysius the Areopagite. 1987. *The Complete Works*. Mahwah, NJ: Paulist Press.

Santos, Mário Ferreira. 1958. *Aristóteles e as Mutações: Sobre a geração e a corrupção das coisas físicas*. 2. ed. São Paulo: Logos.

Santos, Mário Ferreira. 1967. *A Sabedoria dos Princípios*. São Paulo: Matese.

Santos, Mário Ferreira. 1968a. *Sabedoria da Unidade*. São Paulo: Matese.

Santos, Mário Ferreira. 1968b. *A Sabedoria do Ser e do Nada*. 2v. São Paulo: Matese.

Santos, Mário Ferreira. 2000. *Pitágoras e o Tema do Número*. São Paulo: IBRASA.

Santos, Mário Ferreira. 2001. *A Sabedoria das Leis Eternas*. São Paulo: É Realizações.

Santos, Mário Ferreira. *Teoria Geral das Tensões*. n/d. (Mário Ferreira dos Santos Collection).

Sharkey, Sarah Borden. 2010. *Thine Own Self*. Washington, D.C.: Catholic University of America Press.

Smith, Wolfgang. 2003. *The Wisdom of Ancient Cosmology*. Oakton: Foundation for Traditional Studies.

Smith, Wolfgang. 2019. *Physics and Vertical Causation*. New York: Angelico Press.

Smith, Wolfgang. 2020. *The Vertical Ascent*. Milton Keynes, UK: Sophia Initiative Foundation.

Stapp, Henry. 1989. "Quantum Nonlocality and the Description of Nature." In *Philosophical Consequences of Quantum Theory*, edited by James Cushing and Ernan McMullin. Notre Dame: University of Notre Dame Press.

Solmsen, Friedrich. 1960. *Aristotle's System of the Physical World*. Ithaca: Cornell University Press.

Stein, Edith. 2002. *Finite and Eternal Being*. Translation Kurt Reinhardt. Washington, D.C.: ICS Publications.

Stein, Edith. 2023. "Finite and Eternal Being." In *Edith Stein: The Complete Works*, vol. 12. Translation Walter Redmond. Washington, D.C.: ICS Publications.

Thomas Aquinas, Saint. 1948 [1920]. *Summa Theologica*. New York: Benziger Bros.

Thomas Aquinas, Saint. 1996. *Commentary on the Book of Causes*. Washington, D.C.: The Catholic University of America Press.

Thomas Aquinas, Saint. 2012. *Commentary on Boethius' "The Trinity Is One God Not Three Gods"*. Kindle ed.

Tomás de Aquino, Santo. 2009. *Opúsculos Filosóficos*. Tradução, notas e comentários Paulo Faitanin. São Paulo: SITA Brasil.

Tomás de Aquino, Santo. 2018. *Questões Disputadas sobre o Poder de Deus* 7-10. São Paulo: Ecclesiae.

Van Oystaeyen, Fred. 2024. *Algebraic Structures as Seen on the Weyl Algebra*. Monee, IL: University of Antwerp.