

According to the Ontology of Knowledge the Universe is representation: we will show in this article that :

- The nature of meaning "animates" the subject's representation and imposes time on it.
- "Becoming oneself", condition of possibility of any representation, imposes on the subject the aesthetic intuition of space.

Note: The reader is assumed to know the Ontology of Knowledge (OK) in its principles, having read either the "logico philosophical summary of the Ontology of Knowledge" (Ref RLPS) or "The introduction to the Ontology of Knowledge" (Ref OdC)

However, we will need to define more precisely a few important concepts before embarking on our endeavour. For this we will appeal to Schopenhauer, Descartes, Kant, Husserl, Heidegger and Augustinus by underlining similarities and differences between their theses and the OK

### **Clarification on the logical nature and extent of the subject.**

To quote Kant first:

(ref CRP p377): "(A370) *The transcendental idealist can...admit the existence of matter without departing from mere self-consciousness, nor accepting anything more than the certainty of representations in Me, therefore than the simple Cogito ergo sum...*"

(ref CRP p377) "*Therefore external things (A 371) exist just as I exist myself, and that, ..., on the immediate testimony of the consciousness I have of myself, with this simple difference that the representation of myself as a thinking subject is related only to the internal sense...*"

(ref CRP p380 footnote): "*Space itself is nothing but a mere representation: therefore what is in it must necessarily be contained in the representation, and in the space there is absolutely nothing outside of what is actually depicted there.*"

To quote Schopenhauer as well:

(ref MVR p48): "*...as in general no object..could not be conceived without a subject, dogmatists must be denied the very possibility of the reality which they attribute to the external world, founded according to them, on its independence away from the subject. The whole objective world is and remains representation, and for this reason is absolutely and eternally conditioned by the subject; in other words, the universe has a transcendental reality. It does not follow that it is an illusion...*"

These quotations sum up this aspect of Kant's and Schopenhauer's visions : the subject is instituted no longer as a witness to a world in itself but as a nexus of the representation of an unknowable reality, even without provable existence.

They also make it possible to reveal the contradiction, the lack of focus of theories, which gives any attentive reader a feeling of vagueness, of a failed act. They appear to be situated somewhere between a pure idealism from which they defend themselves and which would in fact say nothing of the nature of the Spirit and a realism which would say nothing above all of Reality, defined as inexpressible.

Although they are amply explained by the authors and many exegetes, for lack of telling us clearly what this subject who "represents" may well be, these theses struggle to convince.

This feeling is all the more painful since a reader, with a mind free from prejudice, perceives in these texts the potential for a prodigious leap in the understanding of our relationship to the world. However, the theories produced since by Western philosophy have not been able to respond rationally to this question. Their proposals turn out to be either circular reasoning or a waiver to the ontological question.

Western philosophy and science (physics and mathematics) are still polluted today by the dogma of a reality '*object of knowledge*', i.e. according to which the subject (or at least his mind), existing *for himself*, would represent or give form to a reality distinct from himself. This dogma, residue of the theologies of the "Book", impacts not only the stated theories but the very foundations of the language and the thought which state them.

The useless complexity resulting from this is made evident by quantum physics which, because it always distinguishes the Agent from her experience, struggles to understand the influence of that one on this one. So much so that W. Heisenberg underlined this problem of "the elision of the subject" by science.

That weakness of Kant's and Schopenhauer's theories is obvious regarding the notion of causality: Schopenhauer describes causality in detail as the origin of the change from one state of the object to another state. Knowing that the state of the object is the "unified" representation of a set of *a priori* forms of the understanding, it follows that the change and therefore the causal relation itself is the "unified" representation of a set of causal relationships.

Schopenhauer even writes:

(ref : "The Fourfold Root of the Principle of Sufficient Reason" section "On the Law of Causality." )

« *When a state, to be the condition for the production of a new state, contains all the determining conditions except one, it is customary to call this missing one the cause par excellence. This is justified as long as one confines oneself to this last change, which is indeed decisive in this case; but having made this exception, we must note that no determining factor in the causal state, simply by virtue of being the last, has any superiority over the others, so as to establish, in a general way, the causal connection between the objects. ... On the contrary, it is the state as a whole that is the cause of the subsequent state, and therefore, it is irrelevant in what temporal order these determinations have operated their connection.* »

It follows that what is represented as the causal relation from one state to the next state is in fact the "unified" representation of the set of all determinations of all states prior to the state following.

Schopenhauer's proposition: "*There is no causality except in and for the understanding*" should therefore have been subject to the same differentiation as for the object between "form" on the one hand and "activity vacant of form" on the other hand. The "form" of causation being the product of the subject's understanding and the "activity vacant of form" being that which indeed deserves the name of Reality "*independent detached from the subject*".

The shadow in Kant's and Schopenhauer's theories would then have been dissipated in the sense that it would be possible to state that on the one hand: The world in its form is entirely conditioned by the understanding, and on the other hand: Reality is "activity vacant of form", meta-substance which the OK designates as "Interdependence"

On this consolidated basis, the OK shows how the Reality vacant of form represents and knows itself, according to transcendent principles of extreme simplicity.

The OK proposes to put in coherence the theories of Kant and Schopenhauer by the following reasoning:

Since we only represent the existing without being able to prove its existence in itself, why distinguish *a priori* 'to Exist' from 'to Know'?

Why not consider as identical in a single reality what represents, what is represented and the principle of representation itself?

Could we consider subject and world not simply as "one reality" but as "the same reality".

Symbolically the OK proposes, rather than considering the subject as "a thing containing the knowledge of other things", to extend the reality of the subject to all that constitutes, directly or indirectly, the condition of possibility of his representation, without distinguishing "internal" from "external".

According to Kant and Schopenhauer, material objects, space and time are representations, already included within the subject's reality, there is therefore no need to consider an extension of the reality external to the subject towards the infinity of space and time.

The causal relation, as evoked by Schopenhauer, does not further distinguish the subject from the world:

(ref QRPR Page 141): "...Although the law of causality is an innate condition and the only means by which we can perceive the external world, we must not, therefore, assert that this principle, arising from the nature of our cognitive faculty, applies to things beyond and independent of it, as if it were the absolute and eternal order of the whole world and all that exists."

(Ref MVR P48): "There is no causality except in and for the understanding; thus the real, that is to say active, world is always as such conditioned by the understanding, without which it would be nothing."

### Heidegger and the subject

One cannot question the nature of the subject without referring to the Dasein and Martin Heidegger (MH).

Let us first note that if MH uses the word "Dasein" rather than "Subject" it's precisely to make a clean sweep of the metaphysical *a priori* associated with the concept of Subject and in particular of its *a priori* limits (ontological, physical, psychic, spiritual). Limits that we are trying to clarify in this paragraph.

Let us quote the first 2 propositions of §9 (ref SuZ) which fixes "The theme of the analytics of Dasein":

*"Das zu analysierende Seiende ist ein Seiendes, welches wir selbst sind.  
Das Sein dieses Seienden ist jedesmal das unserige."*

Personal translation:

*"The being to be analyzed is a being such as we are ourselves.  
The Being of this being is each time our Being. »*

The first proposition will be interpreted: "the being of Dasein that we are going to analyze is the being that consists in being oneself". This interpretation emphasizes "the act of being yourself" and not just the obviousness that it will be about oneself. The being of dasein is clearly not a « state of affairs » but a change toward oneself, ie. an Individuation.

The second proposition recalls that the Being of Dasein is pure becoming-oneself (MH introduces the idea of becoming by the adverb *each time* (jedesmal) which implies repetition and necessity and which except for this function would have no utility).

My translation takes up explicitly the primary axioms of the analysis as established by MH in the preceding paragraphs: *The Being of Dasein is the necessity of becoming oneself and the being of dasein is what the fulfillment of this necessity.* This interpretation of MH's also underlines that the terms « Being of Dasein » and « being of Dasein » designate the same reality, as « the rope » and « the arrangement of the rope fibres » would designate the same thing.

As they stand, these two axioms could be common to the OdC's analysis of being-self and the Heideggerian analytic of Dasein. However the divergences are indeed profound :

The OdC analyzes the being-self according to two modes: On the one hand for its reality as it transcends the meaning, that it calls the *Transcendental Subject*: an Individuation, logical singularity in a reality without meaning, and on the other hand for what it represents. that it calls the *Knowing Subject*: the world, the subject himself and his thought, of what the meaning emerges by separation from the necessity of becoming-one self into contingent paths of fulfillment.

However, MH, like Kant before, does not establish the transcendent reality of the Dasein. He analyses the advent of Dasein according to an argumentation built in the « objectified » world, on our side of the horizon of meaning.

The main problem of this argumentation, even before the complexity it induces, is to appeal to elements of meaning *a priori* available.

The social sciences that analyse the at-world experience lived by Dasein and its inter-subjective framework, the historical, social, linguistic, psychic... facts are not less objectified than the facts of physics and botanics where the prior time elapses and existence of things is an universal truth. MH also, you might say, looks for his key in the light of the lamp.

As a deconstruction, Sein und Zeit offers us an expanded and deepened analysis of the construction and structure of Husserlian multiplicity through which the Dasein can understand and live the world (historicity, experience, concern, finitude, language, inter-subjectivity, society... ).

Multiplicity is analysed in itself and following its own rules, as a phenomenon specific to the Human, without enquiring the simple reality of the subject before the Human and the transcendent modes of emergence of meaning out of a reality without meaning.

*Note that the OdC, aware that reality is unfounded, incommensurable with any possible representation, does not claim to describe reality beyond the horizon of meaning but only to provide a new model for the emergence of meaning in which the concepts of world and subject could be integrated, and to resolve the aporias of the current model and metaphysics.*

What the OK proposes can be summed up in these three propositions:

- The real is subjected neither to form nor to time. It is unfounded.
  - Each Transcendental Subject is a singular mode of order of the real: an Individuation.
  - The Knowing Subject is the meaning emerging of the Transcendental Subject.
- The Transcendental Subject would be "the reality of its Knowledge, its meta-substance, made of unspeakable reality" while the Knowing Subject would be "what shows itself in Knowledge, its form, the sayable world".

The distinction between the world, the body of the subject and his thought appears only in the Knowing Subject as categories of his representation.

### **Precision on the "becoming-oneself" as a condition of possibility of all that exists.**

To quote Descartes:

(Ref MMP 2nd meditation): "...*this proposition, I am, I exist, is necessarily true, whenever I utter it or conceive it in my mind.*"

Without betraying Cartesian logical rationality, this quote generalizes in the form:

*"The proposition, I am, I exist, is necessarily true, whenever I utter or conceive in my mind any proposition"*

Generalized this way, this proposition makes the persistent existence of the subject for himself: the "I am, I exist", the necessary condition for any proposition "X exists".

To quote Kant:

(ref CRP AK, IV, 82, p.183-184): "*There must [...] be a transcendental principle of the unity of consciousness in the synthesis of the diverse of all our intuitions, therefore also of the concepts of objects in general, therefore also of all objects of experience, otherwise it would be impossible to think any object for our intuitions [...]. This originary and transcendental condition [...] is [...] transcendental apperception.*"

For Kant the unity of the subject's consciousness is the *a priori* necessary condition of all the objects of his experience. And still unity is not an attribute of consciousness but a logical prerequisite. Consciousness is One before being.

The unity of consciousness is itself logically included in the persistence of "becoming-oneself" which the OK calls Individuation.

It follows that for Kant as for Descartes, "becoming-oneself" is, for the subject, a necessary condition for all that exists.

Since "becoming-oneself", logically precedes consciousness, it cannot be conceived in time and space which are representations. "Becoming-oneself" is a logical fact that constitutes the Transcendental Subject and transcends the "I-exist", experienced by the Knowing Subject.

### Clarification on the nature of meaning:

The nature of meaning is the mother question of any ontology, even before the question of being. The matter is not the meaning for what it shows us: "*what is the meaning of what is?*", nor even the accessibility or the conditions of possibility of the meaning of *what is*, but the meaning for what it is in itself, as part of the ontological model that one wants to describe, whether it be logical, physical, material, ideal or still another. The "meaning of meaning" one might say.

No ontological, monistic or dualistic theory can be exempt from a clear definition of meaning, otherwise nothing rational, logical, formally coherent can be written. Without this effort and since we are individually and collectively condemned to explain meaning by meaning, how can we escape circular reasoning?

*To quote M Heidegger (Ref SuZ §3 p31) Any ontology, however rich and coherent the categorical system it uses, remains basically blind and perverts its most proper intention if it has not begun by sufficiently clarifying the meaning of being and by recognizing this clarification as its fundamental task.*

*When Heidegger, for example, wonders about "the being which interrogates the 'meaning of being'"\* (the verb to be) and underlines "the intimate identity of the world and of being-in-the-world", he eludes the question of "meaning of meaning" and thereby reproduces Kant's error who, presuming that 'a priori' knowledge already has meaning in the subject, leaves in the dark the transcendent act by which the unspeakable lets the meaning emerge.*

*\*For OK, the subject being does not question the meaning of being because he is the answer. What we must understand is not the lived experience of being-in-the-world, even if it were purely pragmatic and existential, but the being-in-the-world in its reality before meaning : How, from meaningless reality, emerges being (in the formal sense of becoming-oneself), which is the condition of possibility of being-in-the-world.*

Augustinus might have said of meaning (as of time): "What is meaning?" If no one asks me, I know. If I want to explain it to anyone who asks me, I no longer know. »

It is true that, on a daily basis, we act as if the things, the sensations, the concepts, the ideas that appear to us or that we carry have a meaning in themselves, without really asking ourselves why ten billion carbon atoms on a paper deserve the meaning of "dot", nor how interconnected neurons can "make sense".

Yet the fact that we do not "see" our sight nor "hear" our hearing does not prevent them from being present and playing a major role in aesthetic intuition: in what means and what it does mean? For example, what does not participate in our own individuation cannot have meaning, ie exist for us.

To further clarify the nature of meaning, let us clarify with Heidegger what the **non-foundation** of meaning is:

In Heidegger, nature (physis) is irreducible to the natural beings that it brings about.

The world is inhabited by acts and becomings rather than by living beings or things simply present in their material naturalness.

His metaphysics does not seek the foundation, whose onto-theo-logical prejudice he emphasizes, but is entirely dedicated to the advent of being (to ontogenesis\*).

The error would then be to lean ontogenesis against a dark background which would always-already be (even if it were deprived of meaning by its complexity) at the expense of the advent of being ? A way to reintroduce renewed laws-of-matter-before-being?

For OK this unspeakable reality has nothing of the materiality that according to physics, constitutes being and persists in it.

Reality is not a material "constituent" of being. What appears to us as "constituent" of beings are other beings, the meaning of which emerged from the unspeakable according to the same principle of morphogenesis\*

*\* We prefer the term morphogenesis rather than ontogenesis, precisely to show that being is*

*only a form.*

Unlike physical materiality, unspakable reality is not a substance simply and infinitely producing beings : it is interdependence. Although topologically limitless, it carries within it a principle of finitude (which the OK calls the principle of Individuation), condition for the revelation of meaning of the being, but by which also the sum of revealed beings is each time forced to merge into a Whole. The nature must therefore be thought from the Whole towards the One by separation as well as from the One towards the Whole by addition.

*Note for the particular attention of cosmologists: For OdC, the "finite material Universe" is a knowledge and not a reality that the subject happens to know. Individuation, the condition of possibility of representation by the knowing subject, is not produced by laws of the universe (even if they were psychic) but induced according to a probabilistic necessity which logically precedes time and form.*

*It is the compulsion of his own Individuation that forces "all that the subject can represent as existing" to merge into the certainty, the necessity to "become oneself".*

*The Unity and the finitude of the All is therefore the only possible thought, the only possible representation.*

*The "fine tuning" of the cosmological constant is therefore not to be sought in the objects and laws represented but results from the a priori conditions of the representation.*

*To think that there would exist multiple universes, other Wholes than the one I represent is to be mistaken about the meaning of the term "Exist": the meaning of the term Exist is itself constrained by Individuation. To Exist is relative to the subject.*

*This is not contradicted by the inter-subjective idoneity of « objectified » representations.*

Let us now clarify with Husserl the notions of **intensionality** and **extensionality** of meaning (distinction established mainly in the context of logic and semantics).

For Husserl, if extensional meaning relates to the objects themselves and their reference, intensional meaning focuses on the content of mental acts associated with the appearance of these objects in the mind.

Intensional meaning involves subjective experiences, conscious acts and the context of intentional acts. It encompasses how we perceive, think about and assign meaning to objects in our consciousness. For Husserl the understanding of intensional meaning reveals the structure of consciousness and intentional acts.

The distinction is easily shown in the context of logic: the intensional meaning identifies the meaning of the proposition for the speaker, maybe also the modalities of his assertion, whereas the extensional meaning identifies the proposition by its logical relations to the other propositions of the theory.

*Note that the intensional meaning according to Husserl is limited to "mental acts" i.e. to the mind of the subject. Thus Husserlian phenomenology puts ontological reality "at holds" and therefore also renounces to understand the transcendence of the act by which the meaning emerges from the unspeakable.*

Husserl points out that extensional meaning can be analyzed and understood by empirical and objective methods whereas intensional meaning varies according to the intentions and processes involved in establishing the expression and cannot be fully grounded or fully captured by a mere extensional analysis.

From this distinction the OK stresses the following points:

- Already in Husserl's conception, intensional and extensional meaning participate in two immeasurable "spaces": the space of intensional meaning is the subject's mind while that of extensional meaning is the objectified space whose beings are defined by their relations.

Husserl designates this objectified space by the term multiplicity (Mannigfaltigkeit), a technical term borrowed from mathematics:

*"A multiplicity is a collection which consists of elements not only simply unified, but also organized, . . . connected in a continuous way. ["The domain of a system of axioms—system*

*of axioms—system of operations", in: Edmund Husserl, Papers on Logic (1890-1913), tr. Fr. by J. English, Paris, P.U.F. 1975, p. 535, 539].*

This space of extensional, objectified meaning, this structured multiplicity is the space of our conscious lives, idealized by science.

- For the OK, contrary to Husserl's vision, the intensional is not limited to the mind of the subject but extends to the transcendental subject, that is to say to all unspeakable reality (not subjected to time and space) which participates in the Individuation of the subject. Strictly speaking, the intensional is not a space.
- The extensional meaning is not "another reality" than the intensional reality of the transcendental subject, it is a structure of orders, an objectification by separation.
- Although we can infinitely detail the intensional in the form of extensional meaning, the latter remains immeasurable to the former. The objectified explanations of our multiplicity cannot exhaust the complexity of the intensional which therefore remains, in essence, unprovable by the extensional. The elements of meaning of the objectified world only constitute (quantified) stitches to the meaningless, unfounded abyss.
- A being in objectified multiplicity and its becoming has no equivalent in the intensional. Its meaning emerges from the Whole of the intensional. The representation of our World is therefore not isomorphic to reality, there is indeed morphogenesis.
- Since the Individuation of the subject is, in its entirety, the condition of possibility for the emergence of beings, the being-oneself of the subject is the condition of possibility of everything that can have meaning for him.
- Beings (and their relations) only have an extensional meaning, their meaning is relative to the subject, unfounded, quantified by morphogenesis.
- Meaning is not in the object meant but in its conditions of possibility. It is the individuation of the subject which imposes the structures of the multiplicity in which its logic operates. The extensional truth of being/object is valid only for and through this subjective multiplicity.
- The notion of continuity is excluded from "intensional" reality. The continuity of the connections of the Husserlian multiplicity and therefore of our space-time is only appearance in the extensional and must be rethought in this sense.
- The OK defines the element's extensional meaning by its connections (expressed in a probabilistic form) to the other elements of the multiplicity with this proposition:  
**"The (extensional) meaning of the element E is the law of probability distribution over the elements of meaning whose experience E makes possible. »**

Note for special attention of evolution theorists:



*The real evolutionary advantage of meaning is to anticipate what might happen. Indeed, does the ability to make sense of "what is" provide an advantage that would justify evolution having developed such a complexity? Certainly not, since "what is" perceived will no longer be at the moment it takes sense.*

The interdependence between elements is the meta-substance of the real whose meaning is only a mode of order.

Note that meaning thus defined is not "what appears to the mind" or "what the mind produces", it is not "a probabilistic inference tool" for use by the spirit of the subject.

Meaning, under this definition, is the Knowing subject himself, both his unspeakable reality, the modes of order of this reality and the principle that puts them in order, under the constraint of the necessity of becoming-oneself of the Transcendental subject.



Meaning thus defined is not a simple representation of the world by the Knowing subject, it is both the **power** and the **will** which animates and directs the becoming of the subject and of his world. The *subject's mind* (both physical and psychic), *his corporeal envelope*, *the world in which he lives*, are only categories of representation, of the extensional meaning which has no equivalent in the intensional, in the Transcendental subject.

Let us also note that meaning, thus defined, assures its own macroscopic idoneity and the conformity of the world to the laws that our science discovers in there, since only the experiences it predicts as possible could be used to « falsify » its prediction.

And since meaning is what animates and directs the subject and his world, this definition also ensures the *a priori* idoneity of our decisions and our acts.

Meaning is not "something", nor even "the attribute of something", nor even "the thought of something": Meaning is the law of probability on the possible structures of its own deployment, subsumed by its Individuation.

It is therefore not "the thing that has meaning" but the unified meaning of the subject's existence that separates into the "meaning of things in his knowledge" under the constraint of a structured multiplicity of meaning attractors.

The deployment presents infinities of infinities of possible bifurcations.

The possible meanings superimpose as long as they are only possible.

Beings and their attributes are quasi-certain, present, necessary, non-contradictory. Their meaning unfolds from possible bifurcation to possible bifurcation towards the uncertain, but always under the constraint of the Unity of the subject.

Meaning is the non-exclusive structure of Shannon's entropy minima in an Individuation, which itself is a non-exclusive singularity of minimal entropy in the real.

### **Time as a Knowledge :**

Time is not an intuition in the subject.

The Knowing Subject does not "think" that he is becoming. He does not "become". He "is" a becoming.

The Knowing Subject is the meaning of the Transcendental subject and time is immanent in the nature of meaning.

The Knowing Subject has no "state" because meaning is only the probabilistic expectation of other meanings.

Meaning is a becoming, it is the power of its own expansion, the Anima.

A probabilistic expectation coverts, by means of *a priori* possible experiences, the unspeakable into meaning.

It's a relation from the complex to the simple, logically irreversible.

Meaning is an irreversible becoming.

The meaning animates the probabilistic nature of the knowing subject in an irreversible expansion (the time that unfolds) directed by the necessity of his Individuation toward a "becoming-oneself" (the time arrow).

This balance between expansion and Individuation of meaning is the condition of possibility of all that exists for the subject.

Everything that exists for the subject is therefore animated by the time of the subject and directed towards his Individuation.

### **Space as a knowledge:**

"I become myself" is the condition of possibility of all knowledge.

The objectified and structured multiplicity by which all the things that exist for the subject can be represented extensionally, that is to say in their relations, is therefore constrained by this condition. Our concept of space formally expresses this condition: everything that exists for me is included in



my knowledge under the constraint of my persistent unity.

The concept of space can then be expressed in two forms:

*Note : To make of the "I become" the Whole of knowledge is also to revert intelligibility.*

#### Concept of space in the Newtonian form of a changing present:

Everything that exists in the present according to my knowledge exists in me, knowing subject, as I live here and now and becomes as my representation becomes, under the constraint of my unity.

To represent the world and to exist is the same act of meaning revelation.

We will not insist on the shortcomings of this formalism.

#### Concept of spacetime in the relativistic form of a block-universe:

Everything that exists according to my Knowledge is certain, that is to say necessary to my Individuation.

Anything that can exist according to my Knowledge would be a possible "path" to my Individuation.

The block-universe of General Relativity represents, extensionally and non-exclusively, all possible "paths" to my Individuation, "knowing" all that exists.

Each possible "path" would be infinitely divisible, in a quantified, non-exclusive way, into possible "paths".

#### Two mistakes to be avoided:

1-To put the subject at the center of the universe, of all that exists, because the subject is the whole of what exists.

One must not confuse the knowing subject as he has a "representation" and as he represents himself as the object of his knowledge, Existing as "Myself-knowing".

As representation, the subject is all at once the world, his body and his conscious mind, the Self and the not-Self, the "locus" of all that exists.

Since the world is representation, the world is in the subject and not outside the subject.

Therefore, models of objects and relationships do not describe the laws of the world but the laws of knowledge. Among these models of relationships, the concepts of space and time in the very first place.

This is true for science in general.

The first constraint which makes the "I-become" the condition of possibility of all that exists, imposes on all existences to subsume in the becoming-self of the subject.

The form of space-time is that which allows the extensional and non-exclusive representation of all the possible paths of this expansion/subsumption.

Minkowski's mathematical formulation makes it possible to represent expansion/subsumption of possible existences in a continuous analytical form (although it is fundamentally probabilistic).

2- The meaning being unfounded, this representation is valid only on an intermediate scale, according to a certain level of detail. The block-universe of relativity therefore leaves room for quantum indetermination.

4D spacetime does not express the reality of a geometric continuum. It is only a mode of representation of the experiences accessible to knowledge, of the possible experiences, of the possible meanings which can only be extensional, that is to say uniquely defined by their interdependence with other possible meanings, and which, by their very nature of attractors, singularity, judgments of necessity, are quantified\*.

\*Quantified means here that the complexity of reality presents individuated singularities.

If we take a material point A (a point having the meaning of existing), the equation of its existence  $\Pr(A|A)=1$  [ composition of  $\Pr(A|I)=1$  et  $\Pr(I|I)=1$  ] relates only to the possible experiences of A and

means: The meaning of an experience of A existing is the certainty of an experience of A. However, the reality of the path from one experience to another is outside the space-time of representations, outside of multiplicity.

The  $A \rightarrow A$  continuum is justified only in the conceptual universe of possible universes. Admittedly, it is conceptually possible to replace the one-dimensional continuum  $A \rightarrow A$  by an infinity of paths in 4D space, or even by a continuous law of probability density of paths in 4D space. This alternative representation conceptually founds the wave-particle duality: the continuous one-dimensional path of the particle is equivalent to a continuous law of density of probability in 4D space which is identified with a wave.

*Note: Although it is a possible meaning, the wave form cannot exist as such since any experience that would make exist one of the possible paths ( $P_i$ ) would make it non-contradictory [if  $\Pr(P_i|I)=1$  then  $\Pr(I|-P_i)=0$ ] and would therefore prohibit all others.*

The reality from which the instantiations of A emerge is unfounded and neither is the relation  $A \rightarrow A$ .

Two remarks:

1) Question to probabilists about gravity:

Suppose  $A \rightarrow A \rightarrow A \rightarrow A \rightarrow \dots$  and  $B \rightarrow B \rightarrow B \rightarrow B \rightarrow \dots$  two existings.

Doesn't the Individuation constraint force the existence lines of the Minkovski model to converge?

Can it not be shown through probabilities: Would the probability distributions of  $\Pr(A|A)$  and  $\Pr(A|A \wedge B)$  be different due to the constraint of the existence of A and B for the subject:  $\Pr(A|I)=1$  and  $\Pr(B|I)=1$ ?

2) Note on Remote Immediate Action:

Immediate action at a distance pertains to the realm of the possible, not existing:

Let us take the example of a probability distribution law of a quantity x. The experiments (the measurements that reveal the values of x) are not necessarily ordered in time and yet the normal distribution imposes itself on the revealed values. The assumption that this probability distribution results from a prior causal complex is only a realistic *a priori* because Bayesian induction can "bring into existence" its causes as probabilistic singularities.

However, immediate action at a distance is not a possible experience, it cannot be made to exist. The links from existing to existing can only "exist" according to a law conforming to the rules of the multiplicity of the subject which imposes the balance between expansion and Individuation of meaning.

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