

# Introduction to the Ontology of Knowledge

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### **Introduction**

Issue 20200611 : NB This issue contains very significant changes wrt. issue 20200403  
To the classic ontological question "What is the being?", the Ontology of Knowledge (OK)  
replies: "There is no being in reality. Reality is vacant of form. The knowing subject is  
Individuation, he is representation, he creates forms."

The OK then tries to answer the question "How is the knowing subject led to represent a  
universe populated by beings in the becoming?"

### **Summary:**

Reality is pure logical interdependence, immanent, formless, unspeakable.

Logos is a principle of order in this interdependence.

Individuation is the necessary asymptote of any instance of the Logos.

Each knowing subject is Individuation, a mode of order among infinites of infinites of  
possible modes of order.

Everything that appears to the subject as Existing participates in his Individuation.

This convergence into Individuation defines a perspective that gives meaning.

The subject is representation.

It is in this representation that exist the subject, objects and laws of the world.

Without subject there are no objects, no laws, no framework.

The representation is not isomorphism but morphogenesis.

The physical world and the Spirit have the same logical nature: they are categories of  
representation.

The representation is animated because meaning is an Act.

Representation is limited by a horizon of meaning.

Below this horizon the subject represents the universe and itself.

Beyond this horizon there is no prevailing space, time or form.

The predicate expresses, beyond the horizon of meaning, a necessity whose source is beyond  
this horizon, unfathomable.

The OK is neither materialism nor idealism and frees itself from any psychological  
preconceptions.

The OK does not propose an "other reality" than that described by common sense or science,  
but another mode of representation.

The OK is compatible with the current state of science, while offering new interpretive  
avenues.

The OK differs from ontic structural realism (OSR) in various ways:

Just like being, the relationship is representation,

The knowing subject is present in any representation,

the real is non-founded.

The OK is divided into 8 articles:

This Introduction, which presents the essential philosophical components

The OK and the shapes of the world

Illustrates how, according to the OK, reality appears to the subject in the form of objects in the becoming in a four-dimensional space whose time of the subject (its future) would be a privileged dimension.

OK and logic, arithmetic and geometry

Shows how the non-foundation of reality, the necessary presence of the subject, the subsumption of any representation by the existence of the subject, impact these theories.

Is the OK a solipsism?

Attempts to specifically answer the question of the existence of other Me and to study the possibility of a collective thought, of a "We"

A natural concept of time

While reality is not subject to time, this article shows that the meaning is animated by its own nature and that the vector carrying the individual becoming of the subject is also the time of the world he represents.

The OK and the Philosophy of Language

Attempts to identify areas of proximity between the OK and contemporary philosophies of language, mathematics and neuroscience.

Beyond QBism with OK

Qbism (quantum bayesianism) is an interpretation of MQ that places the agent and her expectations at the heart of the theory. This article offers leads for an extension of the explanatory power of QBism.

The concept of foundation and the OK

The purpose of the article is to dispel possible confusions between the OK and the foundation theory, in order to gain a better understanding of the OK.

These items are not frozen. With each progress, correction or deepening, rather than adding new texts at the risk of creating confusion, I prefer to keep the articles up to date.

## Ontology of Knowledge

### 1 The "I" of Cogito and reality:

The first proposal of the Ontology Knowledge (OK) is the meta-ontological judgment from the Cogito:

**-Every statement proves to the "I/subject" his own existence**, but proves nothing of his object: neither of an "I/object" nor of a "world/object", nothing of what is stated.

Then there are two assumptions:

**-The "I/subject" is not all Reality**, which does not mean that Reality is of an other nature than the "I/subject," or even that there can be an absolute cut between the "I/subject" and Reality.

**-The "I/subject" and Reality are interdependent.**

From these three premises the OK develops the following reasoning:

Since the "I/subject" and Reality are interdependent, at least interdependence is a reality.

Under Occam's principle, why not then make interdependence the sole essence of Reality, the only ontological reality?

The concept of interdependence could be as follows:

*- Every part of Reality contributes to the reality of any other part.*

or, in a probabilistic form:

*-The probability of A knowing B is not zero and vice versa:*

$$Pr(A|B) > 0 \text{ et } Pr(B|A) > 0$$

**-Reality is Interdependence**

Since interdependence is not a being, its ontic reality cannot be conceived with the same attributes as the ontological reality of being.

This Reality has no *a priori* referential, no more space, than time, than any quality to order it.

Reality cannot be attached in principle to any form, any dicible attribute such as Being, Unity, multiplicity, finitude, continuity etc.

The concepts of the present moment or of simultaneity do not make sense.

The concept of "part" used to define that of interdependence itself needs to be re-founded.

The concept of state does not apply to Reality *per se*: There is no *a priori* rule to define a "surface" that could be called a "state" of Reality. Beyond the impossibility of defining a state in itself, it would be impossible, for lack of attributes, to qualify a state of Reality.

The absence of *a priori* forms of Reality can be based on two well-established concepts: one philosophical and the other physical.

-The philosopher **Franz Brentano** has renewed the concept of intentionality that dates back to Aristotle. Let's quote his famous phrase:

*"Intentional in-existence belongs exclusively to psychic phenomena. There is nothing like it in any physical phenomenon."*

Brentano wanted by this proposal to characterize the psychic phenomenon. Nevertheless, and with no wish to betray his thinking, he explicitly states a mirror evidence with even more fundamental implications: *no physical phenomenon has any intentionality.*

So in a world of physical phenomena, without a knowing subject, there is no object and therefore no objects. The idea of a world of objects without subject is paradoxical because any idea involves the subject.

-The physicist **Albert Einstein** wrote:

*“The distinction between the past, the present and the future is only a stubbornly persistent illusion.”*

By rejecting the objectivity of the present moment, Einstein necessarily rejects the objectivity of the concept of "form" in its common use (as well as the concept of “state”). In the block universe of general relativity, without the objectivity of an extended present moment, the concept of form or state of a physical object has no objective reference.

**-Reality is formless**

Since deist assumptions have no place in the OK, Reality can only owe its reality to itself. The immanence of reality does not forbid Interdependence: We will say that it is not "reality-in-block" that owes its reality to "the reality-in-block", but each part of Reality that owes its reality to all other parts.

**-Reality is immanent.**

Structural realism, ontic and epistemological vision born with contemporary physics (Ref OSR) proposes to abandon the intrinsic (intensional) predictability of the individual being to consider only its relational (extensional) predictability. The ontic version of structural realism (OSR) proposes to abandon not only the intrinsic predictability of being (one cannot know being) but also the being itself. The OK echoes this proposal from the OSR: "there is no being," and deduces the condition of non-foundation as a consequence of this abandonment. To the OSR the OK adds as a condition the necessary presence of the knowing subject. In particular, the subject is for the OK the ultimate category, the All, the highest level of structure, of any relational multiplicity.

These aspects will be deepened throughout this article (and ref: MON)

Details on the In-Act, the Actual, the Act, the Existing

**- Reality is Interdependence In-Act, "Out of Time."**

To “be out of time” is not to "be" in the sense that "things are" because things are *a priori* in time. Nor is it “eternal” or “immutable” because these two predicates are by definition in time.

Interdependence In-Act ( $Pr(A|B) > 0$  and  $Pr(B|A) > 0$ ) does not presume a logical causal relationship between two facts (A is the cause of B).

We have no adequate mental picture in the world of physical facts with attributes for these concepts of Interdependence, Act and Non-Foundation.

But these strange attributes are not unthinkable.

You have to think about them together and think about them in a logical, not a physical system.

As an example of a logical system, let's take the vocabulary of a language.

Let's put aside the sound sensation attached to the word to keep only the concept.

Let's also ignore any reference of the word to a vis-à-vis object in the world and consider that a word is defined only by other words: thus "snow" would be defined by the words "white" "cold" "wet" "Christmas" "ski" etc.

Finally, consider only the synchronic aspect of the language (it is not supposed to evolve).

Then:

The words are **In-act**, "out of time and space" in that they are always already available for a speech. Time appears through the **Act** of speech, but the In-Act vocabulary is out of time and place of discourse. (cf ref: SOLI)

The **interdependence** between the terms is neither causal nor conditional. Snow is neither cause nor condition of white. I can say, however, that the word "snow" in a speech makes the word "white" possible.

This vocabulary is **unfounded** since there is no first word. Every word must be justified by other words, indefinitely.

- Reality is logically unfounded, there is no being first, no substance in reality.

From interdependence and non-foundation it results that the word has no reality of its own and could be replaced by the beam of words that make it possible or that it makes possible. As this beam is infinite, the meaning of a word cannot be absolutely established.

Language can support thought not because it is true but because it is idoneous, i.e. the probability of an irreducible hiatus in the subject's representation is negligible.

The language does not impair itself.

The language will be intercommunicable not because it is true but because it is mutually idoneous, i.e. the probability of an irreducible hiatus created by the exchange in the representation of each of the interlocutors is negligible.

Having specified what the concept of In-act means, it must now be discerned from the concepts of Actual, Act and Existing.

To do this, let's take the example of a system of equations:

A system of equations is made up of In-act relationships between indefinite entities.

Under certain conditions, this system may have several solutions (see infinity). By the fact that they are possible, these solutions have a certain mode of logical reality, prior and independent of the fact that an agent (Alice) would have calculated them. To qualify this mode of reality, we will say that the solutions are **Actual**.

The same would be true of all sentences that can be stated in a given language. These solutions, on the other hand, will only gradually **Exist** for Alice through the **Act** of Calculation. Note that the Existence of a result for Alice does not change the In-act reality of the system of equations or the Actuality of possible solutions. The existence of the result for Alice does not imply its existence for Bob.

On the other hand, for Alice and for her alone, knowing the progress of her calculation (her state of knowledge CA<sub>i</sub>), the effective probability law on possible solutions is gradually modified: "Knowing CA<sub>i</sub>", some solutions (or sequences of calculation) Actual but not yet calculated, are more or less likely, even impossible or certain for Alice.

*The possibility demands to exist by its nature, and does so in proportion to its possibility, that is, its degree of essence [Leibniz, Die philosophischen Schriften (Gerhardt), VII, p. 194]*

Actuality is a progressive mode and related to a state of knowledge of the subject.

This law of probability derived from CA<sub>i</sub> is the **Meaning** of CA<sub>i</sub>.

The same would be true of the discourse: as Alice states her speech, certain words or syntagms, from possible become probable, certain, then Existing for her and her listener.

Note that the Meaning of CA<sub>i</sub> depends not only on the system of equations but also on the conditions of possibilities (the rules of calculation for example) which are themselves Actual. It should also be noted that depending on the complexity of the initial system, the different cuts that will be made in the calculation may have a more or less complex meaning to represent: At the "nodes" of the calculation it could be a set of values but according to other cuts it could be a subsystem of N relations.

Finally, it should be noted that since the Existence of a result does not change the In-Act of the statement, the mere fact that Alice informs Bob of the state of her knowledge changes

Bob's state of knowledge i.e. what Exists for him, provided that this new Existence does not create an irreducible hiatus in Bob's knowledge.

**2- A heuristic model of reality and Logos**

If Reality has no referential, no prior order, what is a party? How is a partition of Reality possible?

If Reality were not cuttable, it would be unspeakable.

Is Reality cuttable?

The following lines will show what principle allows the unspeakable Reality to "know" itself.

Let's imagine Reality in a discontinuous form.

Let's create two heuristic concepts: the element and the interdependence link.

If two elements of Reality A and B are interdependent, the reality of A depends In-act of the reality of B and vice versa.

Let's note:  $A \leftrightarrow B$

This interdependence is In-act, the sign  $\leftrightarrow$  here has no universal value, it applies only to the relationship between A and B which themselves are In-act realities and not variables.

Since A and B are In-Act, the relationship  $\leftrightarrow$  does not introduce a condition "if A then B"

Let's also consider the interdependencies  $B \leftrightarrow C$ ,  $C \leftrightarrow D$ ,  $D \leftrightarrow E$ , etc....

We can then build a network from A (the Viewpoint) by adding, from near to near, the interdependent elements. At the n<sup>th</sup> addition, this network will naturally constitute a part of Reality, we will name such a network from A: a **Knowledge**.

**- A Knowledge is a bundle of Interdependencies stemming from a Point of View**

Although this discontinuous model is a simplification, it highlights the essential characters of a Knowledge according to OK: It is only a structure of interdependencies, relating to a Point of View. It builds-off from this Point of view, following the Interdependency relationships, by absorption of its logical neighbourhood.

Let us note that the knowledge thus defined does not require any *prior* law, nothing that is not already in the definition of Reality.

Now we need to define at what conditions Knowledge is both separable and interdependent from Reality. For that we will use the new heuristic concept of proliferation.

**Proliferation** : This concept means that an element is statistically interdependent with more than two (ie  $2 + \epsilon$ ) other elements (see Figure 1 below).

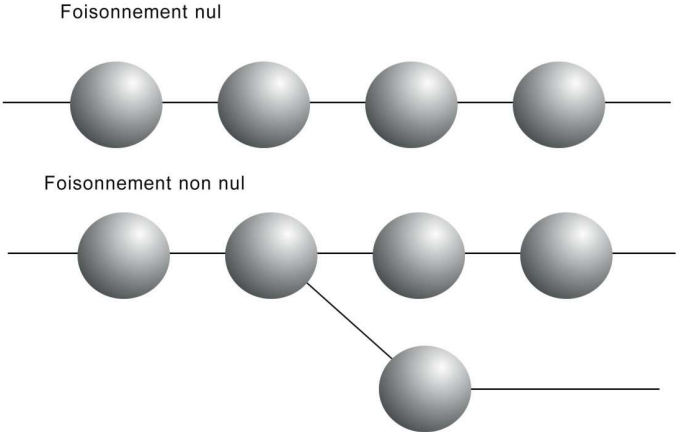


figure 1 (NB: « foisonnement » means proliferation)

Case 1: If the proliferation is zero, the Knowledge (the chain) stemming from A is obviously cuttable, by simply "cutting" both links. This cut by a countable set of links is of dimension zero. It is also through these links that the cut part is interdependent of the rest. The Knowledge stemming from A is monodimensional.

Case 2: If the proliferation is not zero, as soon as the number of interdependencies is high, not only the potency of the network stemming from A but also its complexity become infinite: the network of elements and interdependencies stemming from A exceeds any possibility of cut, because at the  $n^{\text{th}}$  iteration, the neighbourhood (the interface) of the Knowledge would contain  $(1 + \varepsilon)^n$  elements. To "cut" the Knowledge stemming from A from the rest of Reality it would then necessitate a cut of infinite dimension because:  $\forall N$ , when  $n \rightarrow +\infty$ ,  $(1 + \varepsilon)^n / n^N \rightarrow \infty$ . The number of links to the interface is always infinitely larger than would be what an N-dimensional "geometric" surface would allow, no matter how large N. Shall we think that the Reality would be inseparable in parts, not cuttable? In fact, no, we will see that a principle of aggregation tends to reduce the complexity of Knowledge.

To grasp this principle let's define the heuristic concept of **loop**:

- In the simple case of zero proliferation, if the chain  $A \leftrightarrow B \leftrightarrow C \leftrightarrow D \leftrightarrow \dots$  closes on A so that  $A \leftrightarrow B \leftrightarrow C \leftrightarrow D \leftrightarrow \dots \leftrightarrow A$  we say that this chain forms a loop.
- In the case of a nonzero proliferation, the notion of loop can be generalized to a case where the network of links of interdependence globally closes on itself (as a ball could we say). In absolute terms, no wire would protrude from the ball, no link would cross the cut. The loop would then be an immanent reality in itself. This element, having no "free" interdependence, could, however, only Exist for itself. Although its reality cannot be denied, it cannot exist in any representation. Its existence is of zero measure.

Apart from this particular case, we will say that the generalized loop of interdependencies is a statistically singular configuration, presenting a minimum neighbourhood, a number of links with Reality lower than the N mentioned above, that is to say constituting a part of Reality separable by a cut to N dimensions and therefore representable as an element of dimension  $N+1$ . (on the term of cut see ref: MON)

Let's now postulate that:

- the probability of loops in a Knowledge grows and tends to 1 when complexity increases.

Note: A similar result may have already been demonstrated by mathematics.

However, the term 'postulate' is necessary because this principle claims to transcend mathematics.

In a Knowledge stemming from A, a proliferation greater than 0 leads to complexity and therefore necessarily to the existence of loops, constituting "new elements", presenting a minimum neighborhood.

This aggregation of Knowledge applies *ad libitum*, as long as the complexity is not "exhausted", that is, until the proliferation tends to zero, without ever being able to reach it since when the complexity is exhausting, the probability of loops would tend to cancel out. Knowledge from A tends towards a single-dimensional chain.

We described two necessary and antagonistic phenomena:

- **A non-zero proliferation imposes complexity**
- **Complexity collapses metastably towards a zero proliferation**

The result is an asymptomatic balance between the expansion and aggregation of Knowledge from the point of view.

As it integrates the links toward its logical neighbourhood, Knowledge is aggregated towards the asymptote of a monodimensional future.

This asymptote ( $\varepsilon=0$ ) is the **Individuation**.

It should be noted that Individuation is a mode of pure logic, that nothing changes the In-act reality.

The individual being is not the result of the Individuation, it is the process of it, the Act, an Actual probability infinitely close to one but infinitely repelled.

Individuation is a necessary consequence of the principle described above. It does not require any law *a priori* or any *ad-hoc* constant.

We will name this principle the **Logos**

***-The Logos is sufficient cause of the Individuation.***

The Viewpoint is not "actually" the primary element of Knowledge. It is itself a cut in the individuation, a state of Knowledge, necessarily composed, its components being themselves composed and so on.

Under these conditions:

***-Knowledge is unfounded, without founding, without first element.***

***-The Point of View, is a cut in a Knowledge.***

In our heuristic model, the concept of element can be abandoned, replaced by a singular (cutable) configuration of interdependencies.

If elements A and B are unfounded, the  $A \leftrightarrow B$  link loses its foundation at the same time. It must be replaced by the interdependence between "the complex reality of A" and "the complex reality of B." The link of Interdependence is therefore itself unfounded.

***- In the In-Act Reality, there is no being, there is no interdependence, nothing that is One but only unfounded Interdependence and necessary Individuations.***

### **3-The Logos**

We are eventually rid of our discontinuous heuristic model.

Reality is an unfounded interdependence, without substance, to which Logos imposes Individuation as a necessary mode of order.

The question then arises: "The Logos, is it immanent ? Can it be the formal cause of its object ?"

This question does not arise, because the object of the Logos is unfounded.

Since the Existence of objects and facts is only a judgment<sup>1</sup>, the laws that bind them are also judgments and the principle that governs those laws is a judgment.

Despite the very special place that our culture gives to the Immanent, immanence is a judgment, it is meaning, a category.

***-The immanence of an unfounded reality is itself unfounded.***

*The OK differs from the Ontic Structural Realism in that the relationship between facts has no more reality than the facts themselves. Just like the fact, it is representation. (see ref:MOND)*

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<sup>1</sup>The notion of judgment will be detailed later, note that this a term of pure logic that owes nothing to understanding.



Logos is a principle of application of Reality to Reality

Logos is a principle of aggregation, separation and order.

The principle of Logos, essentially logical and mathematical, is simple, immanent, universal.

The Logos does not change the Reality In-Act.

In this formless Reality, the principle of Logos feeds on interdependence to statistically reveal infinities of infinities of surfaces (or N-dimensional cuts) of minimal interdependence that delineate logical parts.

Each part is linked to its logical neighbourhood through the cut that delimits it and which is therefore the place of its logical expansion.

Knowledge is nothing but a part of Reality.

A cuttable part that appears in a Knowledge is named "Fact of Knowledge"

**- The Logos aggregates a Knowledge in Facts separable by cuts**

Facts of Knowledge are not new realities but modes of order, the only reality remains interdependence.

It is notable that the Logos requires no *a priori* referential, no order, no space in relation to which an ordering would take place.

In this sense, Interdependence confers to Reality its own principle of separation and order, or more precisely of separations and orders.

Indeed, any Fact of Knowledge is potentially a viewpoint.

From a viewpoint, the rules that determine separations and aggregations are non-deterministic. It follows that a Viewpoint is in fact the origin of infinities of infinities of Actual paths.

Reality has infinities of Infinities of viewpoints, each viewpoint is the possible origin of infinities of infinities of logical paths (of Knowledges).

**- Reality has infinities of infinities of infinities of ordered Knowledge.**

And since an order defined by the Logos does not affect Reality in any way, the orders are not exclusive:

**- All Possible Knowledges are Actual.**

The Individuation of a Knowledge is a necessary solution of logos but this solution is asymptotic.

The proliferation of interdependence never reaches zero.

It follows that the one-dimensional link of Individuation actually is a balance between divergences and convergences of contingent links, which themselves are a balance between divergences and convergences of links and this indefinitely.

The Individuation-being is unfounded.

The temptation is great to compare this logical structure to a rope composed of strands, then wires, then fibers etc... but we must defend ourselves from it because it would transform Knowledge into a thing, which it is not as we shall soon see.

**-Individuation is necessary but takes infinitely contingent paths.**

The agglomeration of Interdependence is a combination of the solutions of the probabilistic principle that is LOGOS.

The resulting properties include quantification of Facts (Fact is the equivalent of an attractor in a chaotic evolution) and sensitivity to the viewpoint (equivalent to the initial conditions of a chaotic evolution)

Nb:

1-Although some terms - part, link, loop, neighbourhood, surface, N-dimensional cut, etc.- have, in their common sense, a geometric connotation, let us remember that this is pure logic without any preconception of form.

2-The words viewpoint, Knowledge, subject, Individuation, used here refer to concepts of pure logic, stripped by the OK of their materialistic, anthropomorphic and psychological implications. (Ref:MOND)

#### **4- The knowing subject is individuation**

The viewpoint has no reality in itself.

The real subject of Knowledge is not "something real," it is not a being.

The "I" of Knowledge is the asymptote that we have described above, a mode of order whose proliferation would be zero, the vanishing point to which seems to converge the ordering of this Knowledge by the Logos.

The knowing subject is Individuation, to take up the concept developed by G. Simondon (ref ILFI)

If the subject is not "something real," Knowledge is nonetheless relative to the subject. The subject is his Knowledge.

It is from a subject that his Knowledge extends.

Only the Knowledge of which he is the subject can make sense for a subject and no other.

In the ref: SOLI it is shown how intersubjective exchange is possible nonetheless.

#### **5 The Knowledge, the Cut, the Act, the Fact, the Meaning**

##### **5-1 judgment of necessity<sup>2</sup>**

The following example will help define a judgment of necessity:

If Alice enters the casino, with a finite amount of money (as large as one will like) and intends to play roulette indefinitely, then her ruin is a **judgment of necessity**.

This judgment of necessity means that the probability of Alice's eventual ruin, "knowing" an initial state of fact, is infinitely close to one, although the calculation of the term and all the sequences that lead to it is impossible. The judgment of necessity is distinguished from a simple necessity by the fact that there are an undetermined number of contingent steps and paths.

This non-calculability is not due to uncertainty about the initial conditions or a limitation of means of calculation, it is essential: the complexity of the beam of possible sequences exceeds all possibilities of representation and among the unrepresented sequences, some do not lead to the ruin of Alice, however low the probability.

The entry threshold of the casino is therefore not the limit but the horizon on which Alice's ruin appears.

The Act of entering the Casino and any subsequent Act of the game makes Exist the meaning of Alice's ruin as a judgment of necessity.

The judgment of necessity, despite the word used, owes nothing to the understanding, intuition or any act of faith on Alice's part. Alice and chance have nothing to do with it because all possible sequences of the game, from a state of Alice's knowledge, are Actual.

At the macroscopic scale, judgment of necessity and simple necessity merge.

At the microscopic scale, on the other hand, and since reality is unfounded, the paths and the term of the judgment of necessity remain infinitely contingent.

-Alice, considering her ruin as a judgment of necessity, will state the proposition "I am ruined" as a probability infinitely close to one but revealing a law of probability on different contingent routes; "something" between the entrance to the casino and her ruin.

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2 Notion close to the « Contingent truth » according to Leibnitz

-Alice, considering her ruin as a simple necessity, could state the proposal "I am ruined" as a present truth, i.e. a predicate that would be attached to her as soon as she walks through the casino door.

Since reality is unfounded, all of the logical sequences that lead to Alice's ruin are unfounded, unfathomable, In-act.

Cuts are surfaces of lesser complexity that can suture this set to the world represented by Alice. Without cuts this set is then generally replaced by a predicate of simple necessity in the representation of Alice.

Simple necessity is therefore a particular case of judgment of necessity in which no cuts reveal the contingent paths that lead to necessity.

Our example is misleading because the logical facts leading to Alice's ruin are represented by facts of the physical world (games). These facts however, exist for us in the time of our multiplicity. It is therefore difficult for us to conceive of Alice's ruin as a "simple necessity". This is the validity limit of the example.

On the other hand, a proposal such as "this stone is black" naturally seems to us to be a simple necessity because nothing contingent seems to separate this stone from its color in our representation. And yet, a few minutes of reflection prove us the opposite, to the very point that it would be "actually" impossible to associate a present moment of the stone with a present moment of its color. It is only on the logical horizon of meaning that the stone and its colour form "A Fact".

There is nothing we can do about it. This epistemological problem is unresolved: the area of validity of all language (and all conscious thought) is necessarily limited by the horizon of meaning. To describe a simple necessity we have only the extensional predicate (was there a four-dimensional continuum). To represent more than the predicate of mere necessity, one must practice cuts in the Fact (by mental or physical experience) which reveal in part to us its true nature of judgment of necessity.

The extensional multiplicity in which we are forced to describe the world: a world of objects interacting in space-time, does not prevail beyond this horizon.

Knowing that Individuation is a judgment of necessity, this shows that the distinction between the {predicates attached to the state of fact} and the {law of probability on the modes of Individuation of fact} is due only to the possibility of cuts. Without cuts the predicate appears attached to the state of Fact in the representation of the subject, if cuts are possible the predicate detaches itself from the fact to become conjecture in the representation of the subject.

As consequences of all this:

1- Any predicate attached to a Fact of Knowledge is a judgment of necessity.

2- The predicate does not belong "in reality" to the state of Fact but only in representation: the position of a particle on its trajectory, its very mass do not belong to the particle "in reality" but only in representation. The position of a particle that appears to the subject as a simple necessity is in fact a judgment of necessity whose contingent paths do not appear to the subject.

3-The quasi-certainty anticipated by the judgment of necessity does not depend essentially on the initial state of Fact but above all on the conditions of possibility of the logical sequences that lead to it: in our example it is the rule of the roulette game that essentially fixes the ruin of Alice as a necessity and not her money at a given moment. These conditions, which do not appear as such to the subject, nevertheless form the perspective of his judgment. It should be noted that this perspective is In-act, not subject to the time of the subject. It is from this perspective globally that all the judgments of necessity emerge for the subject.

4-The judgment of necessity of Alice's ruin represents in turn one of the contingent paths participating in the judgment of necessity of her Individuation.

This rope structure of the judgments of necessity is finally just another way of describing the mode of structuring by the Logos (cf § 2).

The image of the rope is seductive but it should not make us forget that the contingent paths (the strands of the rope) do not belong to the same space as necessity (the rope). The wires that make up the strand are not in the space of the strand. For the space of the strand is that of its extensional representation.

5-The logical set replaced by the predicate is In-act, it is not subject to space-time and generally to the structures that order the variety in which the predicate makes sense. The intensional reality of the Fact does not belong to the variety in which its extensional meaning appears.

6-The subject's perspective is unfounded. The set of conditions of possibility of the Individuation would be infinitely separable in contingent paths, except that the increasing complexity of this representation cannot call into question the judgment of necessity of the Individuation, for the Existence of the subject remains the ultimate condition of any representation.

7-Simple necessity or judgment of necessity are only "almost" certain. There is always a small probability that the necessity represented will not occur, because some of the contingent paths do not lead to it. The possibility of this break of necessity depends essentially on the conditions of possibility.

8- In an unfounded reality, there is no primary object, no first law, no first predicate. Judgment of necessity is not "something else" than its object. It is a lesser complex presentation: The black color of the stone is nothing else but the stone that is black, the mass of the particle is nothing else but the massive particle. The opposite is also true: the object is nothing but the judgments of necessity attached to it: the massive particle is nothing but its mass.

9- Since the primary constraint is the individuation of representation, it should be noted that the structuring of the contingent paths that lead to it results of separation and not of synthesis.

The distinction between simple necessity and judgment of necessity founds the difference in representation between the predicate attached to the being itself (intensional, its own nature) and the predicate attached to its relationship to the world (extensional, improper).

-The predicate on intensional nature, although it is a judgment, does not present a cut to make the contingencies appear to the subject, to make them exist in the world of the subject.

-The predicate on the being in the extensional world is a judgment of necessity, cuts are represented through which the possibility of contingent paths is acted.

Example:

***-The Existence of a particle is a judgment of necessity.***

-If a photon is considered as a simple necessity, such as a cut suture it globally as a fact of representation, the necessity of the photon does not occupy space-time in the representation of the subject (dt=0, dx=0).

-If experiments reveal a cut (without dimension) that sutures the photon into a countable set of representation Facts (space-time points), the necessity of the photon occupies a one-dimensional space-time in the representation. The photon is particle. Facts represent its trajectory in the space-time of representation.

-If experiments reveal cuts that could be represented as 2-dimensional continuum (spheres) through which a law of probability on the presence of the photon would be acted, the necessity of the photon occupies a 3-dimensional space-time in the representation. The photon is a wave. The cuts represent the development of the wave in the space-time of the representation.

It is the cuts or more precisely their conditions of possibility (the experimental device), i.e. the perspective of the subject, specific to the subject, that makes the contingent paths of necessity appear (or not).

What fixes the apparent spatial nature of the particle therefore does not belong to the particle but to the perspective of the subject experiencing it. **This perspective is relative to the subject.** This perspective is In-act, not subject to the space-time of representation. From this perspective emerges globally all the facts of the representation of the subject.

In this sense, the apparent spatial nature of the particle is interdependent with all the facts of the subject's representation.

## 5-2 Knowledge.

Paragraph 2 presented Knowledge as a bundle of interdependence links between Facts stemming from a Point of view.

We have since seen that neither the Point of view, nor the Fact, nor the interdependence link are real. Moreover, the reality of Knowledge is beyond the horizon of meaning and no language is legitimate beyond this horizon.

So what about Knowledge?

The notion of *All of Reality* probably does not have a reference in reality.

An unfounded reality has no topological limits.

Reality and Knowledge are to each other immeasurable.

It would be unnecessary and misleading to describe an Knowledge as "something."

Only the subject can say "I exist" and any proposition he states proves to him his present Existence as a simple necessity, whatever the meaning of the proposition.

We know that the Individuation of the subject is a necessary solution of the Logos.

Knowledge of the subject is the (In-act, unfounded) set of the conditions of possibility of his Individuation.

A cut in the Knowledge that bears this judgement of necessity to Exist is a **state of Knowledge** of the subject.

It is with regard to a state of knowledge (which then replaces the Viewpoint) that Individuation of the Subject is defined as a judgment of necessity.

- Individuation appears as a judgment of necessity: The "*I will be*" according to contingent paths.

- The State of Knowledge ultimately appears aggregated into a simple necessity: The "*I am here and now*" of the subject

Knowledge is not of another nature than In-act Reality, it is a mode of order linked to an Individuation.

To use Buddhist notions, we could say that In-act Reality is the "absolute truth" and that Knowledge is the "relative truth."

We could also use ancient Greek texts and say that the In-act Reality is KHAOS and that Knowledge is KOSMOS, that is, the KHAOS ordered by LOGOS. Except that according to the OK there is not a KOSMOS but infinities of knowledge of KOSMOS.

## 5-3 Cut and Horizon

A singularity is a structure of minimal interdependence.

The possibility of singularities absolutely closed on themselves is an open question.

Since Knowledge is unfounded, a singularity cannot be defined rigorously by logical "content" or "limit."

We find once again that the concepts of our conscious thinking are not adapted to describe the In-act.

To figure out this logical limit to singularity, we chose the term **cut** for several reasons: 1) The cut means at the same time the act and the result, 2) Cutting is a way to know what is hidden from the thing, 3) The cut is a notion used by Poincaré to define the dimensions of a geometric space (ref S&H).

A singularity defines a Fact of Knowledge, the Cut is the set of logical Acts that predicate this Fact.

This is the set of judgments of necessity logically associated with this Fact.

Each judgment of necessity replaces an intensional, unfounded set of contingencies with a necessity that can be expressed in the representation of the subject.

The predicate does not "actually" belong to the cut, nor does it belong to the state of Fact. In this sense the cut is a horizon and not a limit.

In an unfounded reality, the cut is not "anything else" than the Fact. It is a meta-Fact that can in turn be associated with others to constitute a singularity of singularities.

The cut is relative to the subject and emerges from his perspective.

***-The Cut in a Fact of Knowledge is not a limit but a horizon***

***-Knowledge has no limit but a horizon***

#### **5-4 Fact of Knowledge<sup>3</sup>**

A Fact of Knowledge is not "a thing"

The Fact of Knowledge is "in reality" neither a being nor a state of being in the present.

Interdependence is the only reality and the Fact is only a singularity as it appears to a subject.

The example of a whirlpool illustrates this nuance: the vortex on the surface of the water is not a being in reality but is the result of a singular organization of speeds. It does not have water as a substance because the water molecules pass while the vortex remains.

It does not happen to be interdependent, but rather it is the Fact that results from a particular structure of Interdependence.

The intensional reality (In-act) of a Fact is immeasurable to its extensional appearance in the multiplicity of the subject.

The intensional reality (In-act) of a Fact is not subject to the space-time of its predicates.

A Fact Exists for the subject as long as this Existence contributes in a necessary way to the Individuation of the subject.

Each Fact is in turn the necessary individuation of contingent trajectories.

Each of the contingent trajectories is itself the individuation of contingent trajectories.

It can be said that the contingent trajectories are "constitutive" of the necessary Individuation.

These contingent trajectories are Actual, ie possible, but do not Exist for the subject.

In order to make these contingent trajectories Exist in his representation, the subject must create cuts. These cuts replace the contingent (the possible, the Actual) with the necessary (the certain, the Existing). They then make Exist Individuations in the Individuation.

These Facts in Fact are a state of Fact that ultimately contribute to the state of Knowledge of the subject.

This is a principle of order in relation to the Point of View.

***-Logos orders The Facts of a Knowledge***

#### **5-5 Act**

In 5-3 we write: A singularity defines a Fact of Knowledge, the cut is the set of logical Acts that predicate this Fact.

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3 In many ways the Fact of Knowledge compares to the Monade according to Leibnitz. But the resemblance is superficial and the differences profound. Using the term Monade for the OK would betray Leibnitz's thinking and expose the reader to too much confusion.

Why talk of Act about the cut?

Explanation:

The representation of common sense imposes on us an infinite space in which things are and become.

The OK shows that this representation is only the meaning given to reality by the subject and that each Fact of his representation, each "element of meaning" is in reality a horizon that presents him with the dicible meaning of an unfathomable and out of time whole of logical interdependence.

The cut is therefore the whole of interdependence between a Fact of Knowledge and its neighborhood, except that the neighborhood is not geometric but logical. It does not separate the inside from the outside but the Existing from the non-Existing, the certain from the possible.

Let's take as an illustration a sentence describing a situation:

"White sheep graze on green grassland"

The globality of the sentence defines a perspective that sets the relationship of each semantic element to the other elements and space-time represented.

Sheep exist in representation. That's for sure.

As a semantic element in the sentence, the word sheep that appears One, is in fact the logical place of an Act that makes possible other contingent semantic facts (all concepts that can define a sheep for a given subject). These other Facts, although Actual, do not exist in the representation and above all they are in no way located in space-time, in the moment or volume of the sheep represented.

On the other hand, a specific cut made by the sentence makes the predicate of whiteness certain in the representation. Whiteness here is simple necessity.

The sheep are white in the representation. That's for sure.

We understand that the word white is itself the logical place of an Act that makes possible other contingent semantic facts (all concepts that can define whiteness for a given subject) and which themselves are immeasurable to the situation represented.

It is through cuts that a representation extends into the reality In-act of the Facts.

Since there is a necessary balance between expansion and aggregation, it is also through the Act of this expansion that the aggregation of new Facts of Knowledge is made necessary, which themselves will be the seeds of a new ordering of Knowledge.

At each State of Knowledge, several expansion paths are possible, from which would result several modes of aggregation in new Facts of Knowledge.

The set of cuts is therefore for the subject the logical place of the Acts by which its representation extends and by which new Facts are made possible.

***-The cut of a Knowledge carries the Act by which it extends and leads its expansion.***

***-The cut carries the law of probability on the contingent pathways of the individuation of the Fact.***

The term Act and even more that of Transaction describes the concept quite well:

It has an object: meaning.

It has an axis: the individuation, the necessary asymptote.

It actually describes a logical set of immeasurable complexity.

Despite these words we ought to remember that nothing changes "in reality"

## **6 Representation by the subject**

### **6-1 Individuation**

The principle of Individuation necessarily derives from the Logos, its transcendent principle. The subject is only a contingent solution of this principle, among the infinities of possibilities.

The subject is the representation of the world. The world is representation by the subject. Two uses of the term Individuation must then be distinguished:

- Individuation as a general principle, whose instantiations are only possibilities, Actual but without Existence.
- Individuation as representation by the subject of his own Existence, as a judgment of his own necessity.

Individuation is never "something": In the first use it is a principle, in the second it is a probability. The mistake would therefore be to conceive of "individuations" in general as universal truths, as objects that become.

The only objects, the only forms, the only Existing Individuations are in representation.

*This responds to Everett in a way: if several paths (contingent) are always possible, they are only Actual, not Existing. The only paths that Exist are those that participate in the Individuation of the subject. The only Existing universe is the one represented by the subject and whose all Facts, as a matter of principle, contribute to his Individuation with a probability infinitely close to one. Individuation is One, as a matter of principle.*

It should be stressed again that Individuation is a mode of order but does not change the reality of the In-acte.

We will see that the sentence: "*The only Existing universe is the one represented by the subject and whose all The Facts, as a matter of principle, contribute to his Individuation*" is fraught with consequences: it implies that the predicate "I Exist" subsumes all the predicates that constitute the Universe represented by the subject and which is the only Existing Universe.

It follows that the fusion of all the certainties that the subject's physical or mental experiences reveal cannot exceed the certainty of his existence.

All representation is subsumed in the assertion of the Existence of the subject.

- **"I" is the sum of all that Exist.**

- **The probabilities of all that Exist or may exist merge in my certainty of being.**

Let us repeat in our terms the assertion of G. Simondon (ref ILFI): The subject is not the result of Individuation, it is Individuation.

## 6-2 perspective

Sensation is not a data, made intelligible by the understanding to the use of reason. The interdependencies that increase our Knowledge are diffusely integrated into our Knowledge, our global ability to give sense, and it is from this whole In-act that Logos brings out the Facts of Sensation. This proposition is, in an updated form, that made by Maine de Biran two centuries ago (ref. DAI).

To the idea that reason synthesizes the universe of knowledge by arranging, at every moment, one-to-one, the Facts of sensation revealed for themselves, it must be opposed that it is the global faculty to give meaning that lets emerge out of it, the Fact of sensation, as part of a whole, conceived and ordered globally in the I/object.

The Fact of sensation, in its form and also its relationship to other Facts in the geometric universe of our representation, is determined by the laws derived from the Logos and not by a possible external cause of sensation.

Invariances appear and only make sense *a posteriori* as laws and geometry of the world.

- **Sensations and all Facts of Knowledge co-emerge from our global ability to make sense.**

This leads us to a concept of universe ordered as a whole by the Logos, whose forms emerge from the mind/object (Knowledge) to appear to the consciousness of the mind/subject, a universe where objects do not possess "by themselves" position, mass, inertia, speed etc... but where these properties emerge from the global knowledge of the subject.



This mode of genesis is comparable to the genesis of geometric space according to Poincaré. In such a concept of universe, ideas of mass, inertia, gravitation, relativity can make sense.

For example: The inertial mass of an object means "If I move an object in my representation of the universe, the whole representation is affected" "To move an object, I have to change all my representation of the world"

The **Existence** of the subject is the judgment on the necessity of his Individuation. The **meaning of the existence** of the subject is the law of probability on the contingent paths to his Individualation.

There is in this only common sense: To exist is to become oneself. Only what determines us as Existing and therefore contributes to our Individuation can exist in our representation. All that appears to the subject as Existing participates in his individuation. It draws the ways of his Individuation and it is the meaning of the world and his existence.

The sense of the world (and of ourselves) is subsumed by the necessity of our individuation. The ways of our individuation merge into the necessity of our Existence.

The modes of this convergence build the perspective of the subject: some Facts of his Knowledge exist as such and in their reciprocal relations (this is the conscious state of representation) while others, although Actual, are only conditions of possibility (this is the underlying perspective).

Perspective refers to a mode of order, the instantiation of the Logos on a state of Knowledge. Perspective owes nothing to understanding, understanding is one of the modalities of perspective.

Structures, object-of-probability pathways are Actual. Cuts give them (or not) Existence. It would not be inaccurate to say that the perspective is the set of conditions for the existence of each Fact, but it must then be made clear that all the Facts constitute perspective and are therefore to each other's conditions of possibility.

From the In-act reality of Knowledge emerge the conditions of possibility of the Individuation ie the perspective.

#### Weak anthropocentrism.

Because the subject is Individuation, all Facts of Knowledge are interdependent.

Paragraphs 6-1 and 6-2 require us to reconsider our perspective (in common sense this time):

Whatever direction I look in, "I" am at the point of flight from my perspective. My perspective, the geometry of the world I represent, is closed on myself.

All the future of all the beings I represent (in a four-dimensional space-time) converge towards my (monodimensional) future.

At every moment my universe extends towards my future.

All the Facts of my representation contribute to my future.

***-The representation of his Knowledge by the subject is necessarily centered and closed on his future.***

The article "Is the OK a solipsism?" ref SOLI shows that intersubjective exchange does not establish the objectivity or universality of our representations. The compatibility of our discourses on the world simply reveals to us that the Individuation of each of us participates in the individuation of humanity and the conscious on earth. Nothing in this that we wouldn't know already.

***-The representation of its Knowledge by Humanity is necessarily centered and closed on its future.***

*General Relativity describes a space-time that may be closed on itself. The above proposition is quite far from the RG, on the metaphysical background (the why) as on*

*the formal aspects (it is not space-time per se that is closed on itself but any geometry and any logic as representations). It should be noted that the necessity evoked transcends the concept of space.*

### **6-3 Meaning**

The difficulty that OK stresses is that we can only access reality through consciousness when consciousness itself comes from reality.

The meaning is necessary for us to say how the meaning happens.

The consciousness of reality is built in us through the Logos, which imposes the Fact on us as a semantic element.

***- The Fact of Knowledge is born in us before consciousness.***

We need to clarify what the meaning is in Reality, apart from its psychological or cultural meaning and without resorting to Facts of the world that would make sense on their own.

Otherwise what would the phrase "the world is representation" mean?

There is no universal language (vocabulary and syntax). A language is only valid within the multiplicity that defines it. Objects, laws, words and syntax co-emerge from and co-found a multiplicity (in Husserl's meaning) of which the subject is the epicenter.

***- There is only extensional meaning***

To the reader who has the time and patience, we recommend reading the text "Mathematical Fact-syntactic Fact" in Appendix I.

This text shows that the absence of foundation for logic does not make it a mere syntax of meaningless propositions. More precisely that the meta-judgment of Existence of a syntax, is itself meaning. The syntax itself, and by extension the meta-logic, should not be considered external, or overhanging the logical facts that would form the vocabulary. Syntactic Facts and Meta-Logic Facts at all levels are born from Logos and are of the same nature as Logic Facts. A judgment of necessity on a state of Fact is a Fact of Knowledge.

The meaning of a Fact of Knowledge has the same nature as the Fact itself.

***- A Class of logical Facts is a logical Fact***

***- The meaning of a logical Fact is a logical Fact***

An unfounded Knowledge, that is, without primary semantic Fact, can nevertheless make sense because it necessarily presents singularities that are Facts. These Facts are interdependent and the structure of this interdependence (which we have described as a probability relationship) again presents singularities that are meta-Facts.

The ultimate meta-Fact is the Existence of the subject, this structure is hierarchical in relation to the "I" of the subject.

This structure is therefore a mode of order, i.e. meaning, without law, without a relationship of belonging or order. Nothing but interdependence.

Fact and its meaning are not two different "things.". The 'judgment of necessity' and the 'law of probability on contingent routes to this necessity' refer to the same logical reality.

***-Meaning is not of another nature than reality.***

*To this nothing surprising: In a probabilistic Universe, an event (a part of the Universe) makes sense regardless of the proper (intensional) meaning of each elementary eventuality. Expectancy is then the extensional meaning of the event.*

*The Universe does not need to be founded: Elementary eventualities do not need to be "something", they can in turn be singularities to which a judgment of expectancy would be attached, and this indefinitely.*

*The only condition is that this Universe is interdependent.*

The Existence of the Fact of Knowledge, its Unity and the predicates attached to it do not have their reality in the place and present time of the Fact (there is neither place nor present in

reality). This In-act reality is masked and transformed by the judgment of necessity into individuated semantic content.

The **Existence** of the Fact in the representation of the subject is a judgment of necessity.

The **meaning of the Fact** is the law of probability on contingent routes to this necessity.

It should be noted that the meaning of the concept of diamond is not a list of already Existing Facts such as “transparency, hardness, wealth, beauty, carbon, etc..”, it is not a conscious bet of the subject, it is a law of probability on the concepts made possible by the Existence of the concept of diamond in the representation of the subject.

It is indeed a meta-Fact by which the concept of diamond is associated with others.

The necessity of the concept of diamond in a state of thought emerges from the same conditions of possibilities that make probable although contingent the emergence of concepts of transparency, hardness, wealth, beauty, carbon.

For these contingent paths to Exist as Facts of Knowledge, the subject will have to make them necessary by a cut, by an (thought or physical) experience.

It should be noted that the cut that makes necessary a path that otherwise would only be possible, is akin to a condition of possibility, a new rule of the game such as the outcome, from probable becomes certain.

If my Existence were simple necessity, the world and myself would not make sense to me, I would exist as a pebble exists for itself.

But the world and I make sense to me because my perspective allows cuts that make it appear necessary some of the ways of my necessity, Facts then appear to me to Exist which themselves make possible other Facts etc.

So we need to correct a little the definitions of meaning:

The **meaning of the existence** of the subject is the law of probability on cuts, which would reveal as necessary the contingent routes to his Individuation.

The **meaning of the Fact** is the law of probability on cuts that would reveal as necessary contingent routes to its necessity.

And always the sense of the Facts of my Knowledge converges towards the sense of my own Existence.

*This completes the answer to Everett and generally gives meaning to the collapse of the wave function:*

*-If the Existence of fact (the predicate)  $F$  is, for Alice, a judgment of necessity ( $Pr(F)=1$ ) attainable via  $F_1$  and  $F_2$  Actual channels [ $Pr(F|F_1)=1$  &  $Pr(F|F_2)=1$ ], contingent in the sense that two cuts  $C_1$  and  $C_2$  ( $Pr(C_2)=1-Pr(C_1)$ ) would make  $F_1$  or  $F_2$  respectively to Exist.*

*-If the  $C_1$  cut makes  $F_1$  to Exist for Alice ( $Pr(C_1)=1$ ),*

*-Then ( $Pr(C_2)=0$ ) since  $F$  cannot exceed necessity.*

*-The existence of  $F_1$  makes it impossible for  $F_2$  to exist.*

*- $C_1$  is a logical fact, not a physical one; It would be enough for Alice to inform Bob of the Existence of  $F_1$  to make  $F_2$  unknowable for him.*

Meaning as a measure.

One can try to give the Existence and the Meaning the form of a measure:

The path of a Knowledge is complex.

In a complex path, if all the paths were equiprobable, the average probability of "going through" such a link of interdependence, stemming from a given state of Knowledge, would be zero ( $1/\infty$ ).

But a Fact of Knowledge is a singularity (a loop, an attractor) whose links have an infinitely greater probability of being travelled stemming from given states of Knowledge.

We see a quantitative character (a measure) that qualifies the Existence of the Fact for a State of Knowledge:

**- A Fact Exists for a State of Knowledge if it appears with a non-zero probability.**

Knowledge is not a substance. Fact is not a universal reality, its Existence is related to a state of knowledge.

The Fact of Knowledge, the attractor, is not a particular arrangement, In-act, of the interdependencies constituting its reality. The attractor is a singularity in a journey of Knowledge stemming from a state of Knowledge (The State of Knowledge plays here the role of the initial condition of the journey). This singularity is a necessary consequence of the probabilistic laws of Logos.

To say that Fact of Knowledge has a non-zero Existence measurement is also to say that there is a non-empty domain of States of Knowledge for which this Fact appears to Exist.

**- A Fact of Knowledge Exists if it appears to a non-empty set of States of Knowledge.**

The Existence of a Fact for a State of Knowledge is therefore also a law of probability on the Existence of this Fact in other states. This law of probability draws the probabilistic contours of a logical proximity. The so-associated states form what can be called a (logical) pool of initial conditions from which the beam of interdependence links leads to the attractor, to the Fact.

The Existence of a Fact is therefore a Fact: the meta-Fact that unites the states that represent it, a class of states. We see that the representation so defined is not psychological. The Existence of a Fact in representation is a class of States of Knowledge assigned to a judgment of necessity.

The subject is Representation.

The judgment of necessity on the persistence of the subject as a representation gets closer to a simple necessity as the Facts merge, by intersection of state classes.

The law of probability on the contingent modes of appearance of other "myself" is both the sense of the representation of the subject and what directs his future.

The Act of giving meaning to a Fact of my Knowledge is also one of the Acts that individuates my Knowledge.

We must renounce the usual distinction between: on the one hand an individuated knowledge that could be considered as an ability to know, as a perspective (see ref LAMG) specific to the subject, a kind of "piping" leading the meaning to converge towards the subject, and on the other hand a flow of determinations, which would follow these convergent pipes to finally form a present representation of the world.

There is no: on the one hand the knowing subject and on the other hand what he knows. The subject that knows and the representation of the subject are one and the same Act, one and the same process. And especially not one thing or the state of a thing.

*The error of this usual vision is to think the intensional reality of the subject in terms and especially in the space-time of its (our) extensional representation.*

*We may know that this is impossible, but we want to believe (could it be otherwise?) that "the reality that represents" belongs to the present time of "representation".*

The persistence of the Fact in my representation is also my persistence.

Here is an example of the general formulation of Cogito: "... the proposition "I am, I exist", is necessarily true, whenever ... comes to my mind a ... proposition" by which we see that the propositions that appear to me are my Existence.

This expression can be transposed even more obviously to humanity: "The Act of giving common meaning to the Facts of our Knowledge is also the Act by which we exist as Humanity." Or: "A culture and the works of this culture are one and the same dynamic."

Facts of Knowledge are unfounded, propositions such as  $A=B$  or even  $A=A$  are unprovable. The solution to give the  $A=B$  proposition an operational meaning, testable by experience in the context of a Knowledge, would be: "A=B means that, the Existence of Facts A or B for a State of Knowledge C, carry the conjectures of similar expansions."

The truth of Proposition  $A=B$  is therefore related to Knowledge C and its truth value is the probability of the achievements of a conjecture made about the expansion of C.

**-Two Facts of Knowledge can have the same meaning.**

So there are classes of Facts with the same meaning, logically unified .

Note that the term "to conjecture" applies to the anthropomorphic version of the word knowledge. According to the OK, the meaning of a Fact of Knowledge is the meta-Fact that there is a distribution of probability on new Knowledge that it generates.

This meta-Fact exists because it binds Facts for which the probability distribution is similar. Although the reality of Facts of Knowledge is unfounded, the meaning revealed by the Act allows them to be represented by sets of finite complexity (laws of probability) and to order them into a Knowledge.

**-Meaning reduces the complexity of the Fact.**

If we try to "think our thought": because of its underlying chaotic nature, the expansion of thought shows continuities. New sensations are not independent of the present state of thought, this is what allows conjectures.

A state of sensations carries in it singular laws of probabilities on other sensations. Some of the possible future sensations are more likely than others.

The reality of meaning is the existence of these singular laws of probability, of an interdependence between a sensation and those that will follow. These continuities make possible conjecture about future knowledge from current Knowledge.

**- The meaning is a conjecture.**

Thus, not only does the sign "Socrates" have as its meaning the conjecture of the next sensations of "old, wise, ugly, generous..." but the "red" sign associated for example with the sign "apple" has for a meaning the conjecture of the next sensations of "sweet, tender, etc. ..."

- The *raison d'être* of the meaning is that it anticipates without hiatus the future sensations, the future increases in the knowledge of the subject.

This phenomenon is self-reinforcing because the semantic anticipation of a future sensation increases the probability of its realization.

Note that these best paths to the "I" to come are Actual, already possible, already probable before taking sense. Individuation is not the result of extraordinary chance, it is not an extraordinary machine resulting from evolution, Individuation is a necessary solution of the Logos, necessary and Actual.

It is remarkable that the meaning thus defined refers to Knowledge itself and in no way to a form *per se* of reality. Reality to which it is precisely enough to be chaotic, to have no form in reality. It does not matter that there is no Socrates/object with the formal attributes of old age, ugliness, wisdom and generosity, it does not matter that an apple is not actually red, what matters is the persistence of the specific probability links between one state of Knowledge and the following.

The form is the persistence of this semantic attractor, of this loop of probabilities that unites the sign to its semantic neighborhood, it is the label (the symbol?) of the conjecture that can be drawn from it. It is the meta-Knowledge of the meaning of a Knowledge.

It is then noted that, as with the signifier of language, the form (the formal label) attached to the concept is arbitrary. Just as the acoustic image associated with the concept of Socrates is

arbitrary, the formal image associated with the concept of red is arbitrary, only counts the efficiency of conjecture, the persistence of singular relationships of probability, in their individual truth as well as relative.

*-The form of the sensation is arbitrary, the Meaning is in the persistence of the links.*

## **7 The Shape of the World**

### **7.1 The Primacy of Logos - Morphogenesis**

If we try again to "think our thought", how can we believe for a moment that the **phenomenon that represents**, whose complex structure is recognized, abundant and chaotic, would have such a plasticity that it could at any moment and in an instant adapt to the **phenomenon represented** to produce an image of it, not as a mere file in the brain, not as a vulgar projection on a screen, but the lived representation, integrated by the knowing subject to all his Knowledge.

"The spirit is anticipating!" you will say.

But what is then, in the new image, the share of anticipation (endogenous) and that of the actualization, and since the actualization is done through sensations, what in the sensation is the share of the new effective signal (exogenous) and the part of the perspective? We have just shown that aperception is an emergence out of the global ability to know.

"Anticipating", is that not "extrapolating" current knowledge in the form of conjecture about new sensations?

From this reflection how can we not perceive that the phenomenon that represents is of a complexity out of proportion to the phenomenon represented (the determinations supposed to come from the world vis-à-vis) and that therefore the laws of representation have an authority far superior to possible laws of the world to impose its forms on the phenomenon represented. How can we fail to understand that what determines the form of change is above all the laws of representation and since Kant and Schopenhauer have shown that change in representation is the necessary condition for any meaning, we must then admit that

***- It is the laws of representation that govern the world of our representations!***

They are the ones who determine, from the present representation, which new Facts will appear.

It is therefore not the change in the Reality of the world that brings with it the change in the infinitely adaptable representation of the subject; but it is the representation that feeds on the Reality vacant of form, it is the Knowledge of the subject that at every moment absorbs its logical neighbourhood and gives it forms according to its own laws to become itself.

***-Our representation of the world is morphogenesis.***

***-It is not the world that changes according to its laws but our Knowledge that expands and is ordered according to the laws of Logos.***

### **7-2 Anima**

Knowledge is not a "thing"

Although reality is In-act, a state of Knowledge is only a mode of order. Not a physical order, but a purely logical order. The Meaning does not change the reality.

A representation can only Exist, that is to say take meaning for another representation.

A representation has truth (meaning) only in relation to a representation that com-prehend it (both senses of the word) and gives it formal Existence.

***- Through the Act of its expansion, a representation gives Meaning, gives Existence to the In-Act Reality that it com-prehend.***

This dynamic relationship between the In-act and the Existence strictly deserves the name of **Anima** (which animates Knowledge) .

The Anima results from the complementarity of the In-Act and the Act: The In-Act Exists by the Act that gives it Meaning, the Act is a law of probability derived from the In-Act. Without the Act, the In-Act could not Exist; without the In-Act, the Act would be without Power and without Will.

There is nothing new here: Our thought, is it not the expression of our thought ?, life is it not the expression of life ?, doesn't a logical theory require a broader theory to express its truth...? The relationship of a representation to the representation that expresses it is irreversible by nature and not by accident. It is not the complexity of the interdependence links from one state of Knowledge to another that makes unlikely any turn back, but the logical principle that a truth can only be expressed (Exist) by a larger truth that com-prehends it.

The allocation of Meaning is also the transition from the contingent (the probable) to the necessary (the certain)

***-The attribution of meaning appears to the representation as an irreversible flow.***

The result is an ordered relationship with a semantic content and a container, what is understood and what understands.

***-The attribution of meaning orders the expansion of the representation.***

***-It is not reality that is changing irreversibly but representation.***

We have seen that Facts of Knowledge emerge from complexity.

The appearance of a Fact of Knowledge does not reduce the complexity in Reality.

Nevertheless, by replacing the In-Act of the Fact with conjecture, with meaning, it tends to "hide" this complexity to the subject.

The example of a referendum illustrates this concept of unification by meaning quite well:

*The population called upon by a referendum carries with it an opinion, diffuse in time and space. No individual carries in him the meaning of the opinion. There is in reality no state of opinion. An opinion poll (playing the role of a cut) will, however, give the unitary meaning in the form of conjecture about the outcome of A future event (the referendum).*

The relationship between the diffuse whole and its possible developments (the law of probability) simplifies the meaning. The innumerable reality of the signifier is replaced by conjecture on a set of countable dimensions of future experiences. The same goes for the pressure or temperature of a gas.

Each Fact of Knowledge constitutes an "inward" horizon of representation, a logical limit on which the complexity of the Fact In-Act is replaced by the relative simplicity of conjecture.

Thus defined, a state of Knowledge delimits a subset of Reality, closed by a horizon, such as everything has meaning, Exists.

As an exercise, I suggest to the reader to apply this principle to his view on the world:

*The present moment of the world is the cut that delimits the present state of my representation. On this cut, the unthinkable complexity of its causal content is replaced by attributes, laws. The meaning of these attributes and laws funds the conjectures I can make on my future sensations.*

With this proposal, the OK updates the allegory of Plato's cave.

***- The meaning of the world is on the horizon of representation.***

### **7-3 The present moment.**

The sensation in itself contains an apparent paradox:

The sensation appears as One and present to the thought/subject,

The whole world appears present at the thought/subject

The subject appears to himself as One and present.

And yet, sensation, as well as the concept of object, as well as the subject itself are diffuse wholes in their intensional nature. Despite these evidences at the level of thought/object, how is it that the sign appears One and present to the thought/subject?

We have seen that the unspeakable reality of the signified is replaced by conjecture about a dicible set of future experiences.

Unification by meaning does not transform at once and in one piece the In-Act into Fact, it must be considered as an extended and permanent stream of unification whose asymptomatic target will be the Cartesian "I/subject", the Individuation.

Since Einstein, we have known that, in the world of our representations, the simultaneousness of distant entities does not correspond to anything real. The sensation (and by extension any state of Fact) is therefore never a synchronous phenomenon in reality because, being necessarily complex, it could not be altogether One and synchronous.

If the Fact, as an object (which is never really synchronous) appears present to the subject it is simply because the present moment of the subject is its state of mind (of representation).

The present moment of the subject and his state of mind refers to a single signifier.

The present moment is not defined for thought/object but only for thought/subject, for the "I."

It is to the semantic asymptote where all meanings coincide.

The present moment of a Fact, is not an external reference but it is included in its concept One.

**-The present moment of a Fact is the asymptomatic Unity of its Sense. (see also CNT)**

**-The present moment of a Fact is the Act that utter the meaning of the Fact.**

The In-Act of a Fact is not simultaneous from the present moment of the Act that delimits it.

**-The Reality of an object is not in the present moment of its meaning.**

Not that the reality of the object would be in a "different moment", but the time that prevails for the extensional meaning does not prevail for the intensional reality.

The Act that states each Fact is a present moment and it is the semantic interdependence of these Acts, the Individuation, that causes the convergence of all these present moments towards a present moment of the knowing subject, of the "I".

The "I" should no longer be regarded as situated in a present moment which would be vis-à-vis it and would impose itself on all the Facts of that state of mind, but on the contrary consider the present moment as constitutive of the "I" as immanent to the "I".

The idea of the present moment is already included in the "I" of the Cogito.

The synchronicity of the representation results from the very nature of what we call the state of mind of the subject: the meanings of the Facts (considered as containers, logical attractors of thought) are gradually subsumed towards the purely semantic whole that is the representation of the world by the "I".

**-The present moment of the subject is the asymptotic individuation of his meaning.**

**-The present moment is the Act that states the "I am."**

At each stage of this semantic aggregation, the present moment of the "compound" does not formally refer to the present moment of "components".

There is not a present moment that would bathe the fusion of the components into compound but creation, for the compound, of a present moment.

-The "I/subject" is the only one to know his present moment.

-The present moment of the Facts is not the present moment of the subject.

The present moment of the subject's world contains only the "Acts" that exist for him.

There is in reality no synchronicity neither of sensations, nor of Facts, nor of thought but creation of a semantic present moment at the asymptote of the process of Individuation of the subject's Knowledge.



As interdependence is the only ontological reality, we must abandon the common vision of a world made up of "present beings to which it happens to change state".

Change is not an "accident of being" but, on the contrary, it is the Fact that is a singularity of interdependence. One could almost say that being is a singularity of change and that its present moment is one of the attributes of its Existence.

The process that synthesizes the Facts and merges them in the present moment of the subject is the Logos, a principle that transcends understanding and consciousness.

The present moment is a synthesis of its own.

The subject is not the result of a synthesis but the synthesis itself, the subject and its present moment are the virtual focal point of it.

The present moment of the world is a logical cut that logically delimits a state of Knowledge and not a present state of the world.

The logical "simultaneousness" of this cut that appears to the subject does not impose itself in any way on the In-act of Knowledge.

If there is a present moment of the "I/subject," the "I/object" is not concerned with this present moment.

#### **7-4 subject's time**

What creates the subject's time lies in this:

The representation of his Knowledge by the subject is limited by a horizon.

For the subject the meaning of his Knowledge is in an unknowable relationship to the whole of his Knowledge and Knowledge is immeasurable to the whole of reality.

Knowledge is an unfounded, journey.

The whole of representation, far from being the whole of Knowledge is only a cut and the meaning is produced by the Transaction across this cut, this horizon.

But let's further clarify what the horizon of meaning is:

When I describe an atom, the extensional meaning is that of the atom considered below that horizon, in the multiplicity of which I am the focal point. The meaning is defined by the interdependencies of the atom/One with the other objects of my multiplicity according to my perspective.

But there is not on the one hand the atom and on the other hand the particles that compose it. There is not, beyond the horizon that carries the meaning of the atom, another reality that would be particles. The atom and its components are one and the same reality. It is the same reality that appears in different meanings. There are "actually" no atoms, particles or quarks etc.

Crossing the horizon is purely semantic, it is not towards another reality.

Nor is there a "space-time interior" of the atom. As we have already seen, the language that describes the atom as an object is not valid to describe its proper nature.

The question "where and in what moment are the components of the atom?" would not make sense then?

To know where and in what moment are the components, I must fracture the horizon of the meaning of the atom, in the hope that one or more new cuts will make me appear the particles, describable in the language of my multiplicity.

The words "hope" as "bet" are misleading because, in a reality not subject to time, all cuts, all possible orders are Actual beyond the horizon of meaning.

So the components could appear to me in all possible positions and moments.

However, from my perspective, all these possibilities are not equiprobable.

If thought/subject is blind, if it does not yet give meaning to these "things beyond its horizon", it is nevertheless interdependent. The perspective I have of the atom/One in my multiplicity

actually contains a law of probability on the existence and spatial-temporal positions of the components that might appear there.

Let us understand that this law of probability that crosses the horizon of meaning is neither a gamble, nor a hope, nor a psychological judgment but an In-act reality. (see ref BQOC)

This reality is hidden from us by the fact that the links of interdependence speakable in the language of the multiplicity of the subject are themselves only meaning. These links, as they Exist for the subject are in an unknowable relationship to their In-act reality.

Here we agree with Kolmogorov's philosophical conception of probability laws, which can be illustrated with a simple example:

*In a meadow are 10,000 black or white sheep. Neither the quantity of sheep nor the proportion of white or black sheep change by the fact that I count sheep. The chronological order of my account has no effect either.*

*The proportion of white or black sheep that appears to me at the time of my account:  $t=500$  sheep, rightly and de facto contains a law of probability on the next steps of the account and on the whole herd. It gives meaning to my experience.*

*What for? Because the "black or white" meaning of my experience is closed by a horizon that conceals its unfathomable reality. Beyond this horizon, the genetic interdependencies to which my measure gives meaning to the rank 500, extend "In-act" to the 10,000 sheep. These interdependencies are the reality of the proportion, the proportion is only the meaning that represents this reality in the monodimensional universe of the Act of counting, in my universe at the moment  $t=500$ .*

*Although each of the 500 sheep seems to me individual, the reality that takes on the black or white meaning extends far beyond the sheep, the 500 sheep, the 10,000 sheep and my overall representation.*

There is no mystery in the relationship between my experience and the conjecture it allows. It's all there, In-act and unfounded.

It is an epistemic error to transpose, beyond the horizon of the meaning the properties of the universe of the subject. This error leads us to think that the space-time that affects the meaning also affects Reality and thus to consider causality (which is meaning) as a reality, the change of the meaning as a change "in reality", and probability as a "bet".

Assuming that the subject is a representation of the world, we now understand that the question "why does this representation change?" needs to be revisited.

The knowing subject is limited by the horizon of meaning.

The form of this finitude animates the Spirit and conditions the flow of life itself. From an anthropic point of view we could say that it is the greatest gift that nature has ever given us. Schopenhauer writes: *"The self that represents itself, the subject of knowledge can never become itself representation or object, because, as a necessary correlate of all representations, it is their very condition... This is why there is no knowledge of knowledge, because this would require the subject to be different from knowledge and still to be able to know knowledge, which is impossible."* » Ref "QRPR" - 41 p 275 276

This quote actually states two negative propositions:

- The subject cannot exist as an object for itself
- A representation cannot prove its truth to itself.

However, the OK responds to these two denials:

-From the first the OK deduces the Anima: the complementarity of the "I/object" and the "I/subject", of the In-act (the "I/object") and the Act that gives it meaning (for the "I/subject").

The subject that gives meaning is not an object but an Act. Meaning is not "something" but the probability of a mode of order emerging from an In-act reality.

- With regard to the second denial, we have shown that in an unfounded logical reality, the **judgment of necessity** replaces the evidence of truth.

Gödel demonstrates that a theory can only be proved true by a larger theory, but he demonstrates this for arithmetic, a theory founded by axioms.

Reality is unfounded. Its immanent Existence is a judgment of necessity. Everything that contributes to it is interdependent and merges into a probability infinitely close to 1.

***-An unfounded logical set carries the judgment of its own necessity, of its own Existence.***

***-Reality, unfounded logical interdependence, carries the judgment of its own necessity, of its own Existence.***

*It is even possible to consider the Universe as a simple necessity, as a whole without Cuts, as a singularity whose only predicate would be Existence. In such a representation the contingent paths of this necessity do not Exist and this Universe occupies no logical space, no space-time.*

*But this is pure theory.*

What is real is not beings but interdependence.

The reality of meaning is not the state of beings but the interdependence between Facts of Knowledge.

The meaning of the subject is not the state of his Knowledge but the interdependence between the state of his Knowledge and other "future" Facts of his Knowledge.

G. Simondon showed us in his own words: the subject is not the result of an individuation, it is the principle, the subject is "becoming oneself".

In this G. Simondon highlights a new evidence: The subject is not simply the crossing of the horizon, what we call the Act of expansion. For the subject this Act is individuation, it converges towards the Unity of the subject.

There is not on the one hand the present representation of the world and on the other hand the preconditions of its representation but a single process of aggregation of meaning towards this virtual point that is the "I".

The subject is not "in reality" a being but in meaning. It is the meaning of his Knowledge, the Act that at the same time extends and individuates, the probability of another myself.

As Kant might have written: the continuity of the world is my own continuity.

The expansion of the meaning of knowledge in its neighbourhood is therefore its very essence.

The Fact contains in itself and In-act the law of probability of other Facts but Exists only by these other Facts. The meaning is the meta-fact of possible interdependencies, i.e. Actual but which will come to Exist only by their fusion within the subject in the unveiling of himself.

This disclosure is irreversible, although the links of interdependence are reciprocal.

The finitude of our Knowledge and the fact that it Exists by pushing back its horizon constitute the principle of its Anima, the soul of the knowing subject.

The present moment is, in essence, linked to the "I" of thought/subject. The necessary and irreversible unveiling of new Facts is therefore interpreted by thought/subject as a change in representation, as a time of the world, whereas it is its own extension.

In conclusion and in response to Schopenhauer, the subject is not, for itself, an object of knowledge. Nevertheless it Exists to himself and gives meaning to the world, it knows its thoughts, by pushing-on in a necessary and irreversible way its horizon of representation. As a "I/subject" he is in essence the focal point of this expansion/individuation.

For the OK the essence of time is first in the "present moment" constituted by all Knowledge; then in the anima, which wants the In-Act to make sense in the Act that com-prehends it; and finally by the logical order relationship between "what has sense" and "what makes sense".

Raised to the highest level of individuation, i.e. to the asymptote of Logos actualization, these principles subsume in the representation of "my future"

**-Anima animates the subject's representation of himself and the world.**

**-The relationship of what understands to what is understood orders representation.**

**-Anima creates a subjective time that appears to be the time of the world.**

**-The time form is consubstantial of meaning.**

## 7-5 The form

The above propositions on the formal concept of "present moment" can be generalized to all concepts of form.

It applies, generally speaking, to the subsumption of thought/object by thought/subject.

The "compound" is not the formal combination of "component" sensations (what would be absurd) but the circulation of interdependencies (laws of reciprocal probability) between these sensations.

Representation is not transposition of the form of reality but creation of predicates, and the concept of being is not the formal fusion of sensations but the creation of a semantic entity.

**-The form of the Compound Fact is not the fusion of the forms of the components Facts.**

Each stage of unification of the representation of the world is the creation of new forms.

Formally referring the sensation to an object opposite is impossible and unnecessary.

Here we find a principle already present in the theory of multiplicities: According to Husserl, the "objects" of a multiplicity are defined and exist not according to a "proper" reality, but according to their relationship to other objects of the multiplicity, the reality that Husserl (and before him Brentano) calls "unproper".

The existence of an object in a multiplicity is speakable only in an extensional way and according to the language of this multiplicity.

As far as the objects of the world as they appear to us, the space-time in which we describe their "extended" reality does not apply to describe their "intensional" reality. It should also be noted that this extensional language is not a priori or universal, it is none other than the structure of my perspective of the world as a knowing subject. My perspective of the world is the structure of the multiplicity in which "I" represents myself.

Saying something about the "inside" of a Fact of Knowledge is a bit like saying something about the inside of a stone: one needs an Act, an additional cut, a N-dimensional interface ( $N \leq 3$ ) through which a new meaning will appear that can be represented, that can Exist in the multiplicity in which we stand.

But we have already written: *"The Act of giving meaning to a Fact of my Knowledge is also one of the Acts that Individuates my Knowledge."* There is not on the one hand the facts of the world and on the other hand the perspective that we have of them. The perspective is none other than the global law of probability of appearance of singularities that build up the Facts. This perspective represents how the meaning of our knowledge Individuates in us in the form of interdependent facts of the world.

The objects of our world Exist for us from our perspective and this perspective does'nt make sense beyond our horizon of knowledge.

The purely logic nature of the principle of Individuation proposed by the OK distinguishes it from the principle of Individuation stated by G. Simondon. (ref ILFI), while keeping the general idea that the knowing subject is Individuation. For the OK, Individuation is not physical but logical, a direct consequence of the Logos, without the need of any other hypothesis.

The "I" is and always will be the asymptotic target of a convergence. It follows that the gradual unveiling, the change of point of view does not reveal another "I". Although it results from an extension of itself the "I" still knows itself as "myself".

*NB: It is essential to keep in mind that this principle of unification is semantic and not spatio-temporal, physical or material. Without this permanent reminder that only the meaning changes, all ontological reflection is lost in confusion and is finally digested again by the theology of a world vis-à-vis.*

## **7-6 Idoneity of the form.**

Gonseth's definition of Idoneity is « *the quality of statements that, in a given situation, best correspond to the circumstances, conditions, requirements and means of investigation of the situation.* »

For Gonseth, knowledge is not true, it is only idoneous.

According to Gonseth's own definition, being idoneous for a model is not just a qualifier. A model is not idoneous. A model is idoneous for use: by the absence of inconsistencies in the acts that result from it.

Idoneity has no universal value. A model judges of its idoneity from the inside.

The essence of idoneity is much more a principle of exchange between {the model that directs the Act} and the {effect of the Act that corrects the model}.

Idoneity does not so much qualify the model as the de facto interdependence between the meaning and the Act. Our spatial sensations are idoneous in that our gestures go to their goal, in that the meaning and the Act co-operate, no matter if they are spatial or not.

The Act makes the model idoneous just as much as the idoneous model allows the Act to be efficient.

For the OK the principle of idoneity precedes understanding in the sense that, long before consciousness, it is the co-emergence of Facts and perspective that ensures, as a matter of principle, the idoneity of our representations.

Why are our representations idoneous, what principle justifies the laws of probability on the possible meaning to derive from the revealed meaning?

For the OK, idoneity is not the result of an adjustment of perspective to any reality,

Individuation is not a formal property of the becoming.

The Individuation, the idoneity of the meaning, the existence of the subject refer to the same necessary consequence of the Logos.

The idoneity of meaning is not due to chance or evolution, it is the necessary consequence of Logos. My representations are generally idoneous because my Individuation is necessary.

The individuation of the subject logically precedes its representation.

We are solutions of Logos long before we can designate ourselves as such.

The subject is the Individuation of Knowledge and Individuation is the very principle by which the meaning of Knowledge is rendered, for the subject himself and with certainty, coherent and complete, idoneous.

There is no need for a vis-à-vis world whose representations would be isomorphic. The Logos ensures the absence of hiatus, the idoneity of our morphogenesis, our representations.

## **8 Conclusion**

### **8-1 Power and Will**

Let us assume that there is no formal "reality" to which to refer our propositions and concepts. The meaning of our propositions and concepts is a probability distribution on the sensations or thoughts to come:

The example of black or white sheep shows us how Knowledge contains *de jure* a law of probability.

The meaning of my Knowledge is only the *Fact-ualization* of the infinite and diffuse system of common causes which themselves are only the *Fact-ualization* of other causes etc... The 500 values are Facts of my Knowledge, their singular distribution is a meta-Fact of my Knowledge, the confidence I can have over the result of the next draws is also a meta-Fact of my Knowledge.

***-Conjecture is a Fact of Knowledge***

To the concept of "Aristotle", the subject combines probable sensations such as "old," "ugly", "intelligent", "generous" etc.

The Fact of Knowledge "Snow" incorporates In-act, conjecture of the sensations of « white », « cold » etc.

The Act of thinking about the concept of "snow" gives rise to the subject's expectation, i.e. the concept of the sensations of "white", "cold", "fun" etc.

***-The Act reveals what is In-act in proportion to its probability, to its Actuality.***

There is no difference in content between the concept "snow" and the proposition "snow is white" and "I think, I believe or I know that the snow is white" etc...

The meaning is not, however, the impotent expectation of an unveiling, because we have seen that:

-The expansion of representation is necessary, it contains In-act the **Power** that animates its expansion

-The State of Knowledge contains In-act the laws of probability on its expansion, it contains In-act the **Will** that directs the expansion of representation.

***- The representation contains In-act the Power that drives its expansion and the Will that directs it.***

***- The object of the Will comes to Exist through the Act of Expansion of Representation.***

There is therefore no difference in nature between representation, meaning, conjecture, desire, Will, Power, Act. The meaning of these words needs to be redefined in an In-Act Reality : not only because Facts to come are already Actual in my present representation but also because their relative probabilities are bound by the necessity of my Existence.

At the highest degree of abstraction, my Individuation is a principle of order, a bundle of probabilities of which Logos alone ensures the persistent unity.

Meaning, conjecture, belief, desire, will, Acts, are embedded in representation. Representation is embedded in Individuation. Individuation is a necessary solution of Logos.

The same Act through which I necessarily become myself, represents, animates and directs my Knowledge.

Yet we want to believe that the world is populated with beings who persist and become.

What we have shown for the state of knowledge of the subject can be extended (cautiously) to the Fact of Knowledge.

The component Facts contain In-Act the conjecture of their interdependencies and the compound Fact is nothing more than the meta-Fact that makes Actual this "reciprocal expectation" of the Component Facts. The In-Act of Component Facts contains the need for the Individuation of the compound.

Thus, the Unity of the compound is not "in reality" due to interactions between the components, in a space-time outside of these, but to the judgment of necessity of Individuation, contained in the In-act of the components.

The Unity, the Existence of the compound and the components, their interactions, are only meta-Facts of representation of this unfathomable In-act.

## 8-2 The Truth

The concept of "snow" for example, is associated with sound sensations (něj), visual (white), physical (cold), emotional (pleasure), etc.

Each of these sensations contains in it a small probability of other sensations and the concept of "snow" is no more than the circulation of these reciprocal probabilities.

This reciprocal expectation between each sensation and the others is the concept of snow.

The concept of snow is not "composed" of these sensations, nor is it the "container" of these sensations.

The form of the snow concept is not related to those of its constituents.

In particular, we have seen that the Fact of Knowledge creates its own present moment.

This circulation of probabilities disappears in the extensional time of the Fact. It appears without duration, simultaneous, present. It is no longer a question of the circulation of probabilities, expectations or conjectures, but of a self-determined truth, a logical Unit, a judgment of necessity.

The truth of a compound is not based on the truth of the components : sensations, signs, concepts that it unites but on circulation, on the reciprocal idoneity of their interdependencies.

***-Each Fact of Knowledge is judgment of its own truth.***

This construction of truth continues throughout the union of Facts through their interdependencies, until the eternally present truth of the "I" and his representation of the world.

The truth of the "I," the cogito, is the asymptotic truth according to this principle of union of the Facts of Knowledge.

Once again, let's highlight G. Simondon's brilliant intuition:

***-The truth of the "I" is Individuation***

From this definition of truth it follows that the propositions "Snow is white" and "It is true that snow is white" are equivalent: they claim that they do not contain hiatus.

## 8-3 The Power of Logos

We might find it implausible that logical interdependence, put in order by the Logos from simple laws of probability, could confer on the logical facts a Power or a Will that would explain the phenomena of the world we represent.

How can we believe that we are the toy of our representations?

By the very laws of our mind, we are led to consider logical facts, beings as One. Thus the statistical interdependence of one logical fact to another seems to us weakly binding, as well as for an countable infinity of logical facts, perhaps even for a continuum of finite dimension (once formalized interdependence in a continuum).

But for OK, the fact is unfounded. Facts A or B, for example, contain in-act infinities of infinities of component Facts. The Interdependence between A and B involves all combinations of interdependencies between the component Facts of A and B. It is to these fantastic infinities, strictly unthinkable, that the statistical laws of Logos apply.

***-Statistical interdependence in an unfounded Reality is infinitely stronger than in any continuous, regardless of the number of dimensions.***

We then understand what Power and Will the laws of Logos confer on a Fact or State of Knowledge to determine its Becoming.

We can only repeat:

***- The principle of Logos, which rules the evolution of representations, is infinitely more powerful than the physical laws that (are supposed to) rule the evolution of the (physical) world.***

***-A representation, ruled by the principle of Logos is infinitely more persistent than the world it represents (supposedly) ruled by physical laws.***

***-Understanding is a category of representation.***

#### **8-4 The anthropocentrism of our representations**

In a Darwinian mode we might think that the laws of Logos give us "by chance" a selective advantage: the ability to represent.

We might think that the representation of the world by facts is essential to us because we could not represent the Whole without reducing its complexity, without the facts and we might believe that "by chance" the laws of Logos lead in a necessary way to the Facts of Knowledge.

The OK obliges us to deepen this reflection and make the epistemological remark:

***-Science states the principles that allow us to state it.***

This remark then leads to the question: Isn't science basically miscible in the Cogito, in a new paraphrase of Descartes? :

*"This proposition: 'There is a principle that makes me exist', is necessarily true, whenever I pronounce, or I conceive in my mind, any proposition."*

Which leads to logical equality: "There is a principle that makes me exist = I exist = I conceive a proposition in my mind = There is a principle that makes me represent the world"?

Raised at the level of principles, Cogito tells us that "*the principle that makes me exist is included in the principle that makes me represent*" and not the other way around because my only certainty is to think of the world.

Or finally:

***-The Logos transcends my\* existence.***

***-I\* am Logos***

The "I/object" is Logos In-act and the "I/subject" is the Asymptotic Act of Logos.

The "I/object" is In-act Knowledge and the "I/subject" is the Act that gives sense to my\* Knowledge.

This is the clarity that Kant and Schopenhauer lacked.

This epistemological remark applies to our representation of the world and its laws:

The laws of the world are our necessary causes as much as we are their necessary cause.

- because without them we would not be.

- because without subject there are no objects, no relationships, no laws. (Ref MOND)

The epistemological remark then states:

***-The laws of the world set out the principles that allow us to state them.***

Which leads us to state equality: "'I' am true for myself = the world I represent is true".

Or finally:

***-The world is the Act to com-prehend my\* Knowledge***

It follows that, despite our efforts and convictions, any representation of the world is anthropocentric. Not out of lack of rigour or pride or belief, but out of necessity.

\*Everyone understands that there is an "I" of humanity and beyond even an "I" of all the conscious on earth and perhaps even an "I" of the systems of all kinds that we have made interdependent. (Ref: SOLI)



Annex I :

## **Mathematical fact - Syntactical fact**

Idea Force: The absence of a foundation of mathematics or logic does not mean that it is a mere syntax, because Syntactic Facts and Meta-logical Facts at all levels arise from the Logos and are of the same nature as Logical facts.

This text refers to the article "Gödel: Des théorèmes d'incomplétude à la théorie des concepts of Jacqueline Boniface " review Noesis .

The "dispute" between Gödel, who defends the existence of the mathematical fact and Carnap, who considers mathematics as a simple syntax, can be transposed at the ontological level. The question would be: "If we cannot find a basis for the being (a first being, a substance, a logical Fact) may it be that the world is nothing more than the arrangement (the syntax, the order) of meaningless symbols, of nothing at all?" "Can we separate order and meaning?"

To see that more clearly, some precisions:

-First, for the OK, the subject carrying the point of view can not isolate itself from its object. This is particularly true in a conceptual domain such as logic. As long as logic has an object, a logical proposition makes sense only in the (logical) relation between the subject who states it and what it claims to qualify. It follows that the universality of a proposition can only be a profession of faith, because the theory to which the proposition belongs, was it coherent, is constructed by and in the point of view. We must not confuse "invariance" and "universality". So there is only meta-logic proposition.

-It also follows that a logical being can not have a limit, a defined boundary. The logical being is itself a point of view on what gives it meaning; it represents its logical "neighbourhood". Its neighbourhood is its universe. But in topology, if each element of a logical set is surrounded by a neighbourhood, this set can not contain, i.e. represent, its own boundary. Being can have only a horizon.

*NB : These remarks show the ontological character of Gödel's demonstrations.*

-The term "mathematical fact" is misleading. A mathematical fact is a concept. But every concept is in essence constructed. A concept is not the recognition of a universal truth by nature but the attribution of meaning to a multiplicity by a subject. The attribution of meaning is not a pure activity of the mind but a process of reality, of which the mind is a part. The mathematical fact is a meta-mathematical concept in that it recognizes the validity of the process that gives it meaning.

-The syntax is not a set of arbitrary rules. If it were a free creation of the human mind, it would nevertheless find its origin in the relation between the object and the subject. Syntax is a modality of designation of invariants identified by a subject (Science is a point of view) in a logical system. The effectiveness of this mode of designation is itself based on invariance. The identification of this invariance is a process of reality.

The syntactic rule qualifies the relations between designated mathematical facts, in the same way that the mathematical fact qualifies the relations between logical propositions.

Unity in fact, whether mathematical or syntactical, is not in itself, as an intrinsic characteristic, but expresses a singularity in the organization of a set of inferences.

It is not necessary that the propositions connected by these inferences be founded by primary constituents, by a substance. The "fact" (whether logical or syntactical) is not founded by a substance; it is born of the- and in the structure, at all levels.

In this sense one can speak with as much legitimacy of the "syntactic fact" as of the "mathematical fact". Both are of the same conceptual nature. There is neither more nor less arbitrariness in the statement of a syntactic fact than in the recognition of a mathematical fact. In conclusion, the lack of foundation of a set of logical inferences does not preclude the existence of "facts" that will not be meaningless or arbitrary creations. These facts will nevertheless be concepts, relative to a subject, built step by step.

Being and order are two modes of designation of the same reality.

Annex II  
**Reality is a logical system In-act**

Reality is Interdependence In-act, "out of time", a concept very different from that of "eternity" which means: "to last all the time".

Interdependence In-act (A because B and vice versa) is a concept very different from the logical causal relation between two facts (A is the cause of B).

Reality is logically unfounded; there is no being in reality.

We do not have adequate mental images in the physical world for these concepts, in fact unthinkable as facts of the physical world with attributes. But these strange attributes are not unthinkable.

To think of them, one must think of the world as a logical and not a physical system.

Let's take as an example of logical system: a language (dead). A dead language is «out of time» in this that the relationship between word and concept are without reference to time.

The interdependence between terms is neither causal nor conditional. Snow is not the cause of white. A language is unfounded since there is no first word. Except for the reference to an object vis-à-vis, any word can and must be justified by other words, infinitely.

**Return on the In-act and the Act**

The example of the book also introduces the concept of Act.

Indeed, a language, a book, a posited calculation, a logical theory In-act do not make sense as such, they only make sense by the Act: the act of speaking, reading, calculating, inferring.

The sounds, the words, the propositions of the language are In-act but make sense only by the Act which defines a certain mode of order, according to certain rules.

Note that the In-Act is not the result of the Act; the In-Act is not the sum of the Acts.

*For OK, what we are is not the cumulative result of our actions **but the Act by which we become.***

The story told by the book is not the result of reading **but it Exists by the Act of reading.**

In an interactive book, the reader, by the Act of reading, selects the story that happens among In-act stories. We see that the In-act (the book) is out of time and that it is the laws of the Act (the process of reading) that impose a dynamic of expansion on Knowledge.

This example (in its limits of validity) makes it possible to visualize the relation of the In-act to the Knowledge through the Act: There is the substance of the book which would be the **In-act** of the printed letters. There is the **Act** of Reading, by letter after letter expansion of what is read. Finally, there is **Knowledge**, which is the accumulation of what is read and ordered in the form of **Facts of Knowledge**.

Interdependence In-act, which constitutes in a way the substance of Reality, is true before being comprehended by the expansion of a Knowledge, that is to say before the Act which understands it.

One could push a little more the use of this example by noting that a major part of the Act of reading is for the reader to conjecture the next words out of his actual knowledge. This shows that the In-act of the reader's knowledge already contains a distribution of probabilities on its future expansion.

There ends the validity of the example of the book, because if the book contains In-act a narrative already formalized (organized in series of letters); the Reality is vacant of forms and it is the laws of Logos which, in guiding the expansion of Knowledge, build its story step by step.

### Annex III

## Consciousness

**Wolfgang Ernst Pauli** is an Austrian physicist known for his definition of the principle of exclusion in quantum mechanics, which earned him the Nobel Prize in physics in 1945. Pauli (like so many others) wondered much about the meaning of the principle of complementarity and the role played by the observer and the observation device.

*(Ref PM & P ) p. 183 It is easy to come to the idea of comparing the inner process of sensible perception and, more generally, any appearance of a new content of consciousness, with observation in physics, because the measuring instruments of these can be considered as technical extensions of the observer's sensory organs. In the case of sensible perception, however, the new content of consciousness becomes an integral part of the perceiving subject. As the unconscious escapes the quantitative measure and therefore the mathematical description, and as any increase in consciousness (or conscientization) modifies by necessity, by action in return, the unconscious, we must expect in this case (of the unconscious) a "problem of observation", a problem which certainly has analogies with that of observation in atomic physics (NDLR at the quantum scale), but involves even more considerable difficulties.*

It seems obvious that a "state of consciousness" can represent to itself only part of the reality that constitutes it; A potentially tiny part of this reality.

This is not a psychological or metabolic question, but a pure question of logic; A mathematical question.

As Gödel has shown for the restricted domain of arithmetic, there must be, in the logical theory of consciousness, true propositions that consciousness can not represent as true; Semantic elements not conscious.

To continue the analogy with Gödel's work, one could say that consciousness is the meta-logic of our "states of consciousness". The one that states the propositions, the one that declares "this is a thought" "this is true".

The rest is in a way the language of the utterance, which is real as the logical substance of "consciousness" but does not appear, "does not exist" as such for consciousness. This is, inter alia, the network, the extraordinarily complex field of interdependencies which connects the signal to the sense and meaning.

Though, consciousness, this part that "takes shape", presents itself to us as the "present self". Then the question arises: where, in what space is the logical substance of consciousness, and in what temporality?

Does the proposition "I am" contain (logically) the language by which it is pronounced?

We do not know very well to distinguish the container from the contents of this kind of bottle of Klein.

As W. Pauli writes, *"measuring instruments can be considered as technical extensions of the observer's sense organs."* (Ibid)

Can not sensory organs themselves be considered as extensions of consciousness, and all the physical or logical phenomena that "make a step" between the observed object and the consciousness of the observing subject ?

To illustrate this, a few quotes from CG Jung about what he calls *The Archetype*, borrowed again from W. Pauli (ibid):

Psychologische Typen (1921)

- *The primordial image, which I have called elsewhere "archetype" is a preliminary stage of the idea, it is the mother cell.*

- *Über die Energetik der Seele (Psychologische Abhandlungen, 1928)*

*Archetypes are typical forms of the grasping of the real, and everywhere we see the regular recurrence, in the same way, of certain modes of this seizure, it is an archetype ...*

- *Psychology und Religion (1940)*

*(We admit) That a certain unconscious conditioning is present as a priori received by heredity. By such a hypothesis, I naturally do not mean the hereditary transmission of representations, which it would be difficult or impossible to prove. I suppose rather that the inherited characteristic must be something like the formal possibility of reproducing the same ideas or at least similar ideas.*

*By the notion of archetype, I mean a property or a structural conditioning peculiar to the psyche in its relation to the brain, whatever it may be.*

- *Von der Wurzeln der Bewusstseins (1954)*

*We must always remain aware that what we mean by "archetype" escapes in itself from the direct grasping by the representation, but rather produces effects that make possible representations, which are the archetypal images.*

*... .. the psychic "Ultra Violet" that is the archetype, is an area which on one hand has no physiological characteristics and also can not be considered either as ultimately psychic although it manifests itself in terms of the psyche*

*... the archetypes have a nature that can not be described as psychic*

*... Archetypes only appear in observation and in experience, and by organizing representations, which always happens unconsciously and, for this reason, can never be found a posteriori.*

- *Aion (1951)*

*... certain complex factors of representation, which I call archetypes, of which the existence as unconscious organizers of representations can be assumed.*

- *Wurzeln*

*The word "Archetype" is an explanatory reformulation of the Platonic eidos (the Idea)*

The definition of the "archetype" given by CG Jung through these lines corresponds quite precisely to what the Ontology of Knowledge (OK ) refers to as the "eigen solutions" of the Logos.

The Logos is a mode of self-organization of interdependence links. His nature is mathematical. Although essentially unpredictable, it presents specific solutions that, applied to a field of interdependence, define singularities. These singularities are the constitutive elements of the representation of the real, in the form of Facts, carrying attributes, in an ordered state space.

To be clear, we must distinguish 4 concepts :

- The principle Logos, which is no more than a statistical law, possibly transcending all reality, which should be compared to the principle of organization of thought in the form of archetypes proposed by CG Jung.

- The generic eigen solutions of this law, which should be compared with generic archetypes or Platonic Ideas (eg the circle, distance) or the concept of attractors of the mathematics of dynamic systems.

- The eigen solutions instantiated by a given course, from a given point of view, which will then have to be related to instantiated archetypes (eg the moon that I see seems to me round

and far) or an attractor appearing for a given application iterated from a given initial condition.

- The complex assemblages of eigen solutions or eigen vectors (whether general or instantiated) which constitute the forms, the attributes of the Facts.

For the OK, from the moment when the "organizing principle " by archetype concerns the metabolic, neuropsychological processes of thought, even if its own nature is not physical; its field of action can not be limited by either the brain, the material body of the subject, or the physical vectors of its observation. Because any attempt to define a precise boundary between the physical world and thought is hopeless: The evolution that created my capacity to perceive, the hereditary or cultural component of the archetype, the circumstances that placed me in relation to the observed object, all this must be considered as one of the aspects, in the very long term it is true, of this process of constitution of meaning. All of this is part of the substratum prior to conscious representation.

The gap between the logical "substance" of consciousness and the reality it observes is indefinite. If, therefore, the Logos extends its field of application to all reality, we have no reason to consider the constitution of meaning as limited to Human, nor to the individual in his spatial extension, and human species, or even the living.

Meaning elements, instantiated "archetypes", are possible in all reality depending of the "initial condition" of the path (i.e. the Point of view or individual consciousness as far as CG Jung is concerned). They are the singularities, the germs of potential forms.

We are today convinced that the retrospective path from the consciousness of the subject to the "Reality" that it represents, will never meet with a substance, a primary particle or a first truth. This "substance" is therefore "absolutely infinite"; it is an unfounded whole in the sense of set theory. Consciousness, the meta-proposition that expresses "I am and I represent the real" has as its substance all the logical interdependencies that plunge into the real, endless journey, infinite set because unfounded.

Here is what sheds light on the vision of the fathers of Quantum Mechanics : Pauli, Bohr, Heisenberg ... concerning the observation of phenomena at the atomic scale.

To quote W Pauli again (ibid, p.157)

*" The indivisibility of elementary quantum processes (finite value of the quantum of action) is manifested in the indeterminate character of the interaction between the means of observation (the subject) and the observed system (the object); .... Indeed, any observation is an interference of indeterminable magnitude which modifies both the device of the experiment and the system to which it relates, and this interference interrupts the causal relations between the phenomena that precede it and those that follow it. "*

We have seen that it is not the observed system which is affected by the means and conditions of observation (and therefore by consciousness) but the course of knowledge which depends on its initial conditions. Nothing changes in the observed reality.

It should be noted that

- on the one hand, the path presents a " *sensitive dependence on the initial condition* ", which means that a representation by a State of Consciousness has necessarily a random part,  
- on the other hand, the attractor is a quantized singularity of the path, which means that the representation of Facts: beings, forms, states, will appear, disappear and change in a quantified way.

Let us now turn our gaze towards the "downstream" path of consciousness:

Consciousness is such a logical theory that is diffused through its logical neighbourhood, just as a mathematical theory gives birth, from deductions to deductions, to a new theory.

The new logical theory all at once "contains" the old and represents it as its "previous state".

Note that all "new" inferences were true before being demonstrated by the new theory, only their meta logical status changes from "true" to that of "demonstrated" that is logically integrated with the (logical) existence of the subject who states it.

The transition from an old theory to a new one must not be considered as a change but as the diffusion of a meta-logical status on an immutable logical substratum.

We note that each "demonstration" of a new truth is an irreversible act.

The Becoming of Consciousness is therefore not a change but the irreversible diffusion of a meta-logical Point of view that "gives shape" gradually to new truths.

The substance that flows "downstream"; becoming consciousness is the same immutable reality and without defined limits as the substance that is travelled "upstream" by the consciousness that observes.

Annex IV  
**Systems without state**

The first condition to define the state of a system as defined by Clausius or Boltzmann is the idea that there is a present moment of the system.

For the OK this idea does not correspond to any reality.

What is real in the simultaneity of the micros states of a system?

How to conceive a state that would be in reality "without temporal thickness"? On what foundations could we define in a system a surface that could be called a state while the reality of a thermodynamic system is a set of interdependencies?

In reality, there is no present moment of a closed and isolated system, except that of the observer, resulting from a choice of point of view; through means of observation which themselves result from his knowledge and his works.

An observation (the physical means and the psychic act) consists in integrating new interdependencies into the Observer's Knowledge. Observer Knowledge is self-representing in a time and space created by him to "tidy up" all its Facts of Knowledge.

There is no state of the system but only a state of knowledge of the system.

There is, in fact, no initial state, nor final state, nor evolution "with time" of the system, but only an initial state of Knowledge and its evolution by increasing Knowledge.

The system is not in time, it is our Knowledge of the system that is in time.

Our Knowledge is the Trojan horse that introduces time (and space) into an isolated and closed system.

The meaning is only applied to the system by the Knowledge of the observer through the observation device.

Within an isolated system, the state as present moment but also the state as quality, have no reality. These are pure concepts attached to the Knowledge of human; anthropocentric by definition.

If we do not want to prejudge the space-time in the system, we must see the system as a set of true interdependencies "outside of any referential"; as an All In-act.

A "past" of the system is a meaningless notion. There can be no physical initial state (no more macroscopic than microscopic)

The initial state is thus not an initial property of the system but an initial Fact of Knowledge, an initial ordering of the Knowledge of the system, defined by the observer's own work.

The state of the system appears to a Knowledge with the asymptotic form that it gives it, limited by its horizon.

This form is fully integrated and ordered in the total knowledge of the universe acquired by the observer at the moment he calls the moment of Knowledge.

In the universe of our Knowledge, we seem to have physically "manipulated" the system to create an initial state.

In deed the real system "without reference" is immutable.

Our Knowledge, by the experimental device which it has itself conceived and realized, has turned itself towards a State of knowledge statistically improbable to lead to what it will call "an initial state of the system, out of equilibrium".

The observer has himself brought his Knowledge to a Point of view where the system appears to him in imbalance.

Then, what we call system evolution is actually the increase of our knowledge of the system, by its expansion into the immutable reality of the system; As if each Fact of Knowledge



newly acquired revealed to us a little of its own structure and brought out other Facts of Knowledge.

In this perspective, the second law of thermodynamics does not relate to the evolution of systems but to the development of our knowledge of systems.

It then appears to us in all its simplicity:

The Knowledge of the system increases cumulatively by its diffusion in the system and integrates with our global knowledge of the world.

Whatever the initial state of Knowledge, it can only evolve globally towards a form corresponding to the most probable Facts of Knowledge, the least singular.

*"This is not the world that becomes, it is our Knowledge that travels a reality In-act"*

Appendix V  
**Logos' eigen-solutions are the forms of the world**

The following lines include different solutions of Logos associated with different formal concepts of our world.

- If a part of Reality is completely closed on itself, then there is no need for a cut. Being cut off from Reality, this part would exist only for itself.
- If a part of Reality is such that a cut brings to the representation each of its interdependencies, our representation offers us the event with its causes and consequences.
- Then comes the solution with zero proliferation, which could be symbolized by  $A \leftrightarrow A \leftrightarrow A \leftrightarrow A \dots$  in which A determines itself indefinitely. The cut that would isolate such a chain would be without dimension (2 points) which defines, in our geometry, a one-dimensional space. We recognize the concept of Individuation here.
- Then comes the solution with a non zero proliferation, but weak enough to be cut off by a continuum of finite dimension, such that the law of probability on possible Facts is distributed according to a continuum with 1.2.3 dimensions.

Let's give a special mention to the case when the cut is a 3-dimensional continuum.

According to our geometry, this case corresponds to the concept of four-dimensional space-time, the 3-dimensional cut being a "present of a space representation". At each point of this 3D cut, the cut interdependence defines a 1-dimensional "becoming" (time) vector.

Note that the 3D-continuum has the minimum dimension that allows to connect all points by a single-dimensional line, i.e. to aggregate interdependence into a set of individuations

These examples certainly have no mathematical value, but they show us that Logos' eigen solutions contain the form and laws of the universe. The laws of the world, as they appear to us, are like a residue of the attribution of meaning, what remains of Interdependence after the Logos has made all beings Exist.

## Annexe VI The sources

Some references to "great" thinkers will locate OK among existing ontological proposals.

▪ Since the OK inverts the sense of intelligibility, our first reference will be **Descartes'** Cogito. The OK refers to this translation of Descartes' "metaphysical meditations"

*"..This proposition: I am, I exist, is necessarily true, whenever I pronounce it, or when I conceive it in my mind. » » .*

The formulation chosen has many advantages on the famous "ego cogito, ergo sum":

It defines existence as a logical statement (a proposition), acted out by a conscious thought (thought is therefore not a mere proof of existence) and whose truth is not universal but limited to the subject.

The existence of the subject is not a state but an act, the act that enunciates self-knowledge. So much so that as soon as the act ceases, the subject's existence ends.

It is a meta-ontological as much as a meta-logical judgement. It proves no more than a mere "I/subject".

The OK does not claim that this interpretation corresponds to Descartes' thought. But what about the ontological thoughts of Descartes, knowing that in view of Galileo's woes, he had expressed his resolve to protect and partly conceal his thoughts?

The evidence then imposes a more general formulation of the Cogito such as: "... the proposal 'I am, I exist', is necessarily true, whenever I pronounce or come to my mind a (any) proposal"

The existence of the subject would not be a state but an act, the act by which the subject gives meaning to his knowledge.

To give meaning to my knowledge would be a sufficient condition for my existence.

▪ Our second reference will be **Kant** and the "Critique of Pure Reason"(ref CRP) where Kant operates a metaphysical revolution by reversing the roles between the object and the knowing subject, as this extract shows :

*" Until now it was assumed that all our knowledge had to be settled on objects; but, in this hypothesis, all the efforts tried to establish on them some judgment a priori by concepts, which would have increased our knowledge, did not lead to anything. So let's finally try to see if we will not be happier in the problems of metaphysics assuming that the objects have to be adjusted to our knowledge, which already fits better with the desired possibility of an a priori knowledge. "*

Kant does not exclude a reality in itself, but the only reality that can be the subject of knowledge is phenomenal, that is to say as it appears to our minds after passing through the filter of a priori elements and after being categorized and classified by pure concepts.

*«Experience itself is a mode of knowledge that requires the concurrence of the understanding of which I must presuppose the rule in myself before the objects be given to me, therefore a priori, and this rule is expressed through a priori concepts on which all the objects of experience must necessarily be adjusted and with which they must agree (...) we know a priori of things only what we put ourselves. "*

Most of what the OK takes from Kant is in these two quotes and boils down to :

**-If there is a "reality in itself" it is unspeakable as such.**

**-We know of reality only the forms that our understanding gives us.**

**-The laws of knowledge apply before the laws of the world as we represent it.**

▪The third genius to which we refer is that of **Schopenhauer** which, on the premises posed by Descartes and Kant, produced the logical edifice that would have (and we will return to this conditional) end 14 centuries of errors in Western metaphysics.

The first excerpt will be borrowed from “The quadruple nature of the principle of sufficient reason” :

Ref QNPR P212: ... *the proposition “I know” is the last abstraction of which we are capable, but this proposition is identical to this one “There are objects for me”, and the latter is identical with this other “I am subject”, which contains nothing more than the simple “me”.*

This is the meta-ontological judgment that states the identity of “I am” as subject of Cogito and “I know” as the subject of the representation of the world.

**-“I am”=“I know”**

The second quote will be:

Ref QNPR P212: *As if supposing a subject, the object is assumed at the same time, and conversely, the object being supposed, the subject is found at the same time; as, therefore, being subject means exactly the same thing as having an object, and being an object the same as being known by a subject; similarly, when an object is determined in any way, immediately the subject is stated as knowing absolutely the same way.*

Expressing the identity of object and subject, this quote associated with the previous, sets out that the “I am” and “I know” have the same object. It states in substance:

**- I am what I know and what I know, it's me.**

The identity of nature between the “I” and “the world I know” is the opposite of an idealism that denies existence to the objects of knowledge. However, it does not postulate their material or even physical nature.

The third quotation, borrowed from “*The world as representation and as will*”, confirms:

Ref MCRV P48 *"There is causality only in and for the understanding; thus the real world, that is to say active \*, is always as such conditioned by the understanding, without which it would be nothing.*

*But this reason is not the only one, as, in general, no object can be conceived without a subject, we must refuse to the dogmatists the very possibility of the reality which they attribute to the external world, founded according to them, on its independence from the subject. The entire objective world is and remains representation, and for that reason is absolutely and eternally conditioned by the subject; in other words, the universe has a transcendental ideality. It does not follow that it is an illusion ... "*

\* Author's note : Schopenhauer considers material reality as a series of causalities without origin which he names "activity"

These quotations, which summarize quite well what the OK takes from the theories of Kant and Schopenhauer, also make it possible to reveal the contradiction, the lack of focus of their theories, which gives to any attentive reader a feeling of vagueness, of a failed act, that of theories left somewhere between a pure idealism of which they defend themselves and which would in fact say nothing of the nature of the Spirit and a realism which would say nothing of the Reality defined as indescribable.

This feeling is all the more painful because any reader with a mind free from prejudices perceives in these texts the potentiality of a prodigious leap for the understanding of our relation to the world.

It is perhaps because of their lack of clarity about the real nature of the Spirit and the World that neither Kant nor Schopenhauer could upset as much as they would have of science and common sense. Perhaps Kant and Schopenhauer, given the magnitude of the revolution induced by their ideas, lacked freedom and abandonment vis-à-vis old ideas and left too many scoria which have fragilized the steel of their thought.

The lack of focus of Kant's theory was emphasized in 1816 by Maine de Biran (Ref NoK ), who criticized him for artificially separating the primitive will from the understanding.

The blur of Schopenhauer's vision appears, for example, when he describes causality as the origin of the change from one state to another state of the object :

Knowing that the object is the "unified" representation of a multiplicity of forms a priori, conceived by the understanding, and that the state of the object is the representation of that multiplicity in a state of knowledge, it follows that the causal relation is itself the unified representation of a multiplicity of causal relationships linking one state of knowledge to another.

Schopenhauer even writes: Ref QNPR *"When a state, to be the condition of the production of a new state, contains all the determining conditions except one, it is customary to call it the ultimate cause. This is true, in that we stick to the last change, which is decisive here; but this reserve once made, note that a determinative character in the causal state, by being the last, has no superiority over the others to establish in a general way the causal union between the objects . .... However, it is the entire state that is the cause of the next state, and then it is indeed indifferent in what time order these determinations have effected a junction"*

It follows that what is represented as the causal relationship from a state to the next state is in fact the "unified" representation of the set of all determinations of all prior states to the next state\*.

Schopenhauer should have better differentiated "the causal link as a form" from "an activity vacant of form". The "formal causality" being the product of the subject's understanding and "the activity vacant of form" being what really deserves the name of Reality *independent from the subject*.

\* The notions of time, state, previous and next will be revisited in their turn.

The distinction between "formal causality" and «activity vacant of form" would help dissipating the vagueness of Kant's and Schopenhauer's theories in the sense that it becomes possible to state that: first: *The world in its form is entirely conditioned by the understanding*, and second: *Reality is "activity vacant form"*, which the OK designates as *"Interdependence"*

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

Schopenhauer just as Kant, although they have shown that the understanding is prime, i.e. it intervenes as a priori condition of any experience, have not crossed the Rubicon with a true merger of Spirit and World, they also failed to reverse the direction of intelligibility.

This is what Paul Langevin said: ( ref CESP)

*"Planck suggested that the quantum of light is something to which the notions of spatial and temporal extension do not apply. Man must learn to see space and time not as objective realities, but which must now be transcended. They are not objective realities, independent of consciousness, and perhaps no such thing exists."*

Let's concede however, that some errors in Schopenhauer's statements are related to notions not yet known at his time; for example:

(Ref QNPR P 228) By condemning reciprocation (reciprocal causality) as giving only vicious circles when it relates to notions that are not equivalent, Schopenhauer presumes the arrow of time and thus lets unseen the concept of causal attractor.

(Ref QNPR §20) Schopenhauer writes that *"...the change occurs and it appears to the subject by the understanding"* which leads to another impasse because if the change is causality without reciprocation, that is to say bound to the arrow of time and if the causality is without beginning then this imposes on him the theology of infinite time.

▪The fourth genius to which we will refer will be that of **Henri Poincaré**.

A key contribution to the OK is in this short excerpt from his book: " Science and the hypothesis" (Ref S & H: Page 80 )

*"When we say that we localize such object in such point of space, what does it mean? It simply means that we represent to ourselves the movements that must be done to achieve this object; and please do not say that to represent these movements, we must project them in space and that the notion of space must, therefore, pre-exist.*

*When I say that we represent these movements, I mean only that we represent to ourselves the muscular sensations which accompany them and which have no geometrical character and which, consequently, do not imply the pre-existence of the notion of space"*

This sentence is fundamental in that it deconstructs any link between mathematical concepts (such as the space) by which science formally describes the world and an assumed form of reality.

Poincaré's conception goes far beyond Relativity popularized by Einstein.

The formalisms of Einstein's theory operate directly on objects of representation: position, point, line, distance, time, geodesic ... on mathematized forms; although Einstein defended himself of that.

This operational, demonstrable, verifiable aspect, satisfies the science of today that has detached itself from the ontological question, but it tends to make us think unduly of space as something physically existing, described by means of geometry; to make us forget the constructed and conceptual aspect of space.

At the end of the 19th century, H. Poincaré laid the foundations for a new branch of mathematics, the theory of dynamic systems.

This theory shows that systems of step by step action, by repeated application of the same law of transformation, governed by deterministic and reversible laws, could evolve over the long term in an intrinsically indeterminate way, or lead to chaos.

It then shows us that the resulting chaos could have definite general statistical properties, universal and stable.

Poincaré even showed that the chaotic character of an evolution was a condition for the appearance of what must be called a universal order that can be represented in an ordered space. Let us understand that: relations of order, relative cardinalities appear, without reference to absolute referential, in the form of comparative probabilities. These relationships are universal in that they embrace elements that do not have immediate or traceable interactions with each other.

Could it be that the vacuity of order that a formless reality would present be precisely the condition of its ordered representation, according to the laws of large numbers?

Then the question arises:

"Is the order of the world we represent an isomorphism of a world "in reality" ordered, or is it a property emerging from the chaotic flow of logical relationships that bind the knowing subject to reality?

Are the laws that order the universe the **physical** laws of a world in vis-à-vis, or are they the **mathematical** properties of the chaos of logical interdependencies that constitute Knowledge of the subject? "

•Our last quotations are borrowed the **Buddha** and his exegetes, when they try to make us understand the concept of **Vacuity**.

Extract of a Buddha's Soutra "... *absolute truth transcends all conventions; it is truly unborn, incessant and beyond the form and meaning of words, beyond the subject who knows and what he knows.*"

Extract from "The walk towards enlightenment" from Pandit Shantideva. *"We affirm that there are two truths concerning all things included in samsara and nirvana: a relative truth in*

*the apparent mode, in which realities, as much as they are, only appear, and an absolute truth in real mode, where the Real, as such, is the very emptiness. Each of these two truths is indisputable at its level.*

*If they were different in the absolute and identical in the relative, each of these propositions would present four defects, as we learn in the absolute commentary of the meaning, which specifies that they are neither identical nor different."*

*"Forms are empty, there is no emptiness other than forms or forms other than emptiness."*

These texts solicit from the reader neither belief nor interest in their exoticism, but reasoned understanding. They must be studied for what they are: a true metaphysics, just like those of Plato and Aristotle and it is in that capacity that they were taken over by great Western philosophers such as W. Schopenhauer or the founders of quantum theory as W. Eisenberg. The quotes above illustrate two notions that the OK takes up:

- There is on the one hand: an absolute reality, uncreated, beyond all forms, beyond the knowing subject and on the other hand: formal relative truths that appear and disappear (note : for the subject) along time.

-This absolute Reality and these relative truths are not "two realities" but only one: Reality being unspeakable at its level can only be said by means of relative truths, and these truths, which appear to the mind, are only modes of order of absolute Reality.

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Ed. Mon petit éditeur 2013