

The philosophy of language and the Ontology of Knowledge

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Objective

The relations between thought and reality are studied in many fields of philosophy and science. Examples include ontology and metaphysics in general, linguistics, neuroscience and even mathematics.

Each one has its postulates, its language, its methods and its own constraints. It would be unreasonable, however, for them to ignore each other.

In the pages that follow we will try to identify areas of proximity between the ideas of **contemporary philosophers of language** and those issued mainly by **Ontology of Knowledge** (see below) but also by mathematics and neuroscience.

We will try to take advantage of the clarity and the perfect structuring of the lecture « La philosophie contemporaine du langage » (the contemporary philosophy of language) given by Professor Denis Vernant (see below). We will make use of this lecture, both for the ideas presented and as a reference process.

The goal of this article is to bring out, through a benevolent confrontation, new ideas for the benefit of knowledge in general.

Introduction to the contemporary philosophy of language .

The content of the lecture written by Professor Denis Vernant (Univ. Pierre Mendes-France-Grenoble II) is included in the book (ref.1).

The objective is very clearly stated in the preamble, so let's just reproduce it here.

"The objective of this lecture is to introduce the student to a fundamental aspect of contemporary thinking: the reflection on language and meaning. The central question of meaning is successively studied under its syntactic, semantic and pragmatic aspects by appealing to all the contemporary fields of knowledge in the matter: logic, linguistics, semiotics, philosophy of language."

After a brief return to the Greek origins of the question, Professor Vernant offers us, in a text of absolute clarity, a comprehensive and structured overview of reflections since the dawn of the 20th century.

Ontology of Knowledge.

Ontology of Knowledge (OK) is an ontological theory.

It has already been the subject of a book (ref 2) and dozens of articles on my blog.

It is not possible to give here, neither a detailed description nor a justification. We will thus limit ourselves to the key elements of OK that are useful to the article.

Key Elements of Ontology of Knowledge

▪ The OK is based on 3 premises :

- A meta-ontological judgment :

- *The Cogito proves itself. It proves nothing more than a simple "I"*

- Two postulates :

- *There is something else besides this "I" (the Reality)*

- *There is Interdependence between the "I" and the Reality*

▪ Of these 3 premises the OK deduces the following main principles :

- At least Interdependence is a reality, this may be the only ontological element necessary.

- The Reality is a system of interdependencies

- The Reality has no form.

- There are no beings in reality but only in its representation.

- The Reality knows itself (it represents itself)

- Knowledge is not of another reality than the Reality. However OK is not a form of materialism.

- A Knowledge is an abundant and motionless course of Interdependencies that link the thought (the "I" as a point of view) to the Reality

- The form results of the mathematical principles which rule this course.

- All Knowledge is relative to the point of view

- Since it is not subject to form, the Reality is not subject to change.

- Knowledge can not make sense in itself, only a wider Knowledge that comprehends it can give it meaning. A Knowledge can therefore only exist by and in its extension.

- This principle is the Anima, the cause of subjective time, the cause of the becoming experienced by the knowing subject. Anima is what animates the Representation, the thought.

- This principle also imposes an essential difference between "what includes" and « what is included". This asymmetric relation fits the representation with a principle of order, an arrow that will make it possible to order spaces there.

- The meaning of a Knowledge lies in the laws of probability that link this Knowledge to its possible extensions (to future experiences).

- For the knowing subject the meaning of his representation is limited by a logical horizon with indefinite contours, limit where everything seems to him to be "named". On this horizon the knowing subject represents his Universe.

- The Universe is what the subject comprehends, the meaning of his knowledge.

- The Reality is unfounded, there is no primary element, no primary substance and everything can always be infinitely detailed. All Knowledge is infinitely decomposable.

- The knowing subject cannot change anything to the Reality that is immutable, but it can change the course of extension of his Knowledge.

- The unity of the knowing subject results from a principle of agglomeration of the meaning close to the principle of individuation described by G. Simondon (ref 3). This principle can as well be called the Logos.

Development:

Ferdinand de Saussure postulated (ref 1) that " *there can be no thought without language* " and that " *without its expression by words, our thought is only an amorphous and indistinct mass (...) taken in itself thought is like a nebula where nothing is necessarily delimited ...* " By this postulate De Saussure refused to the thought any prevalence on language. He also showed that there can be no thought without language.

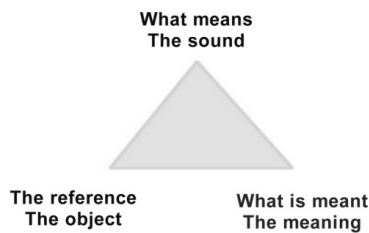
The word was not, in his opinion, a mere arbitrary label attached to a concept, but involved, at least, the structuring of thought into interdependent entities.

From this postulate follows the importance, for the thought, of the language, the words and the signs of which we must specify the nature.

It also follows that there can be no thought without forms.

So here is a point of intersection between philosophy of language and ontology. If thought and language are inseparable, can the representation of reality (ontology) and the constitution of language enlighten / justify / deepen one another?

Let's start with the Stoics who proposed a tripartite definition of the sign according to the figure below (applied to the sound sign).



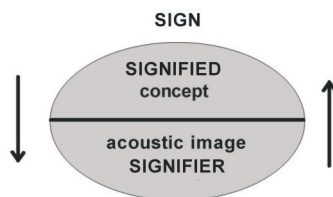
This trinity (object in reference, meaning, sound), although it may seem natural, quickly came up against ontological questions about the nature of the object in reference and its relation to the concept.

How, indeed, could the object vis-à-vis be considered as referent if we know nothing of its shape, its essence, its substance?

Considering this ignorance, the reference of meaning to the object vis-à-vis can only be a self-reference.

The long-standing split of the relationship between the object and the meaning was consumed by Kant's publication of his "Critique de la raison pure" (Ref 4).

De Saussure decided, with regard to linguistics at least, to exclude the referent from his model. The sign is no longer something that is worth something else, it no longer unites a thing and a name but a concept and an acoustic image (according to the image below)

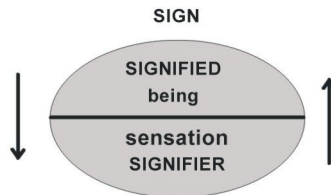


The acoustic image is not here the physical phenomenon but the psychic imprint of the sound; what makes the sign a purely psychic unity unifying two poles, two elements : signifier and signified.

NB (we use the words Signifier and Signified rather than Meaning and Meant, because meaning has a specific use in OK)

Although specific to sound language, this scheme could apply to colors, shapes, smells, etc. A first suggestion of the OK would be to focus our attention on that part of the thought and language that represents the world. Can we not say that the psychic imprints of sound, form, color, touch, etc. are nothing but sensations? ?

The diagram above, limited to the representation of the world would become this one :



This schema would make it possible to envisage the representation of the world by the thought as a perceived language. The sign appears as One/separated sensation among all sensations and associated with an element of significance, a concept.

One can exclude any formal reference of the sign/representation to an object opposite, as de Saussure did for the sign/language in its first definition.

For the subject who represents it, things are like the words of nature.

De Saussure shows that the interdependence between being and sensation is reciprocal.

With the sensation the being (the concept) makes itself speakable/expressible/representable to the thought, the thought takes forms and expresses its significance through sensations.

The question of referencing

As for the representation of the world, to renounce without recourse to any reference in the Reality is not satisfactory, except to take refuge in a pure solipsism.

The OK can also help to relieve this discomfort.

First of all, let us specify two reasons why the form of the object in vis-à-vis can not be used as a reference to the representation:

1) Between the supposed object and the significance, there are already and only the sensations which are nothing more than a signifier and have no formal relation neither with the object nor with what is signified.

-On this last point the philosophy of language brings us precious light:

As far as the language is concerned, the relation of the signifier (word in its form) to the signified is arbitrary. The multiplicity of languages attests.

However once the form of the signifier (the word) has been fixed by convention, the persistence of the relation of this word to the significance is necessary.

As far as the representation of the world is concerned, the relation of the signifier (the sensation) to its significance (the predicate as the formal element of significance) is arbitrary, but once this relation has been fixed by evolution and learning the persistence of the relation of the sensation to the predicate is necessary.

-The relation between sensation and predicate gives us the opportunity to distinguish two aspects of the thought that will be of much use in the pages to come:

The **thought/subject** would be, in principle, the way in which I represent my own thought.

The 2 diagrams above proceed from the thought / subject

The **thought/object** would be, in principle, the way in which I can represent the thought of another, as an external object, without however presupposing the material form. We find in this respect the neurological, logical, computer and other models.

Without reducing the thought/subject to the thought/object, or to the bio-physical functioning of the brain, it is reasonable to think that they both share the same reality. In one way or another, behind the curtain of significance, as it appears to the thought/subject lies the complexity (precisely unthinkable) of the thought/object.

While considering the apparent logic of thought/subject, we can not ignore the chaotic structure of thought/object.

Thus, considered from the angle of thought/object, the sensation as well as the concept of an object are physically diffuse, in space and time, in the sense that it would be impossible to isolate them from the rest of thought by a "cut".

The sign/object does not exist the same way as a thing exists

The sign/object is nothing precise.

Never the sensation, nor the concept of the thought/subject have the "form" of the sign/object, in no way.

The physical phenomenon of sensation has no formal relation with the sign (with any of its possible attributes). Who can believe that bioelectric signals convey a "form"?

It is even impossible to isolate strictly the system of inferences ($a \leftrightarrow b$) that would define the sign/object as a logical entity, even if we could separate the spatiotemporal (physical) relationship from the causal relation (purely logical).

It is therefore clear that the sensation/subject (e.g. a perceived colour or sound) has no formal relation to the Reality. To refer to the object per se to justify the sensation of the object can only be self-reference.

2) If the concept referred only to the existent, or to the supposed existent, that is to the sensation, it would be of no use, it would not offer any existential advantage to the subject and this functionality of knowledge would have been long forgotten by evolution. What is the use of knowing what is necessarily passed?

This question opens the gap through which the OK proposes to reduce the question of referencing.

To find what the sign could refer to, while retaining the autonomy of the representation vis-à-vis the form of reality, let's call on Darwin and ask the question *"in what way is the representation of the real and the language an advantage for the subject?"*

The proposed answer is a bit technical, but it's worth the effort :

As a preamble, let us see the complexity of the sign/object (concept and sensation) hidden under the apparent semantic simplicity of the sign/subject.

To evaluate the complexity of language and thought as logical systems, it is sufficient to depict them at the atomic level. How many billions of logical inferences are necessary to the slightest sensation, to the simple proposition "this is red" considered as an element of language as well as a representation?

In the thought/object nothing allows to cut a sensation from all the others, nor even from the concepts. This interdependence is precisely the power of thought. The thought/object is a relational chaos, as well as its relation to the real.

Relational chaos present attractors, entities that persist for vast domains of initial conditions. These domains of persistence are continuities.

A course of Knowledge is random, but the laws of large numbers impose continuities, the persistence of units.

The increase of a Knowledge presents continuities (Knowledge develops towards infinity of directions and yet remains a Unity).

Here appears the Darwinian benefit of representation :

Because of its underlying chaotic nature, the expansion of Knowledge presents continuities. The new sensations are not independent of the current state of Knowledge.

A state of sensations carries in itself singular laws of probabilities on other sensations. Some 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 which will follow. These continuities make possible conjectures on future Knowledge based on the current Knowledge.

Thus, the sign "Socrates" makes sense by the conjecture of the next sensations of "old", "wise", "ugly", "generous" ... and also the sign "red" associated with the sign "apple" makes sense by the conjecture of the next sensations of "sweet", "tender", etc ...

The *raison d'être* of meaning is that it anticipates efficiently future sensations, future increases in Knowledge of the subject.

This phenomenon is reinforced by itself because the semantic anticipation of a future sensation increases the probability of its realization.

It is remarkable that the sense as defined here refers to Knowledge itself and in no way to a form per se of the Real, to which it is enough just to be chaotic, to have no form in reality.

What does it matter that there is no Socrates/object having in reality the formal attributes of "old age", "ugliness", "wisdom" and "generosity", what does it matter that an apple is not "red" in reality, what matters is the persistence of specific probability links between a state of Knowledge and the following.

The form is the persistence of this semantic attractor, of this loop of probabilities which unites the sign to its semantic neighbourhood, 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.

We note that, just as for 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 label associated with the concept of red is arbitrary, only matters the efficiency of the conjectures, the persistence of the singular relations of probability, in their individual and relative truth.

Let us understand well; we have just shown that **the hypothesis of a form of the world is not necessary**. The Reality could well be shapeless; the forms that the Logos (as a statistical principle) gives to it are sufficiently invariant to make predictable and therefore ascertainable the increase of my Knowledge.

There are many examples that illustrate this definition of referencing :

-The meaning that we mentally associate with the concept of an object is the expectation of sensations probably associated with the future experience of this object.

-The meaning of a word is precisely the expectation of the sensations that a voice will give us pronouncing this word.

-The orientation of the dance of the bees is for us, relative to the position of the sun, while the bees have in no way formal knowledge of the existence of the sun, its position, or its trajectory. They just expect that flying so long and so much right from the light they will find pollen to collect.

-Poincaré writes in his book "La science et l'hypothèse" Page 80 (ref 5) "*When we say that we "localize" such object in this point of space, what does it mean ?*

It simply means that we represent to ourselves the movements that must be done to reach this object ; and don't tell me that to represent these movements, we must project them into space and that the notion of space must, therefore, pre-exist.

When I say that we represent these movements to ourselves, 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"

For Poincaré, the concept of space has no reference either to a formal reality vis-à-vis, or to a geometric a priori intuition but to the conjecture of future sensations.

Conclusion on referencing:

Using the question of referencing as an intersection between linguistics and ontology, we have identified 2 reciprocal contributions:

On the one hand, the approach according to the OK allowed us to define for the sign (image / concept) a mode of referencing independent of any form a priori of an object vis-à-vis.

The meaning of a sign (of a sensation, an image), refers to the law of probability that it determines on other signs (sensations, images)

On the other hand, the parallel between the concept-to-word relation in the linguistic sign and the concept-to-form relation in the representation of a being has shown us that the form associated with the concept of being is essentially arbitrary and that only are relevant the conjectures it makes possible.

The question of the present moment .

The definition of the sign (signifier / signified) contains in itself an apparent paradox:

The meaning of the sign appears as One and present to the thought/subject,

The all world appears present to the thought/subject

The subject appears to himself as One and present.

And yet, the signs turn out to be complex at the very moment they appear to the subject, as we have shown with the example of Socrates.

Indeed:

At the level of the thought/subject: Within linguistic signs, every concept is necessarily associated with a signifier, but the signifiers can not associate without a syntax which, again, implies succession (ex.: red apple, twenty-one).

At the level of the thought/object: The sensation as well as the concept of an object are diffuse sets, whatever their nature. They can not be unified in a sign without a certain temporal thickness. An acoustic image, for example, assumes time.

How can it be that despite these contrary evidences the sign appears One and present to the thought/subject ?

To understand this we must first figure out how the meaning unites what is diffuse.

Having acquired that the meaning is a law of probability on future experiences, the example of the referendum below illustrates this process of unification by the meaning quite well.:

The population solicited by a referendum carries with it an Opinion that is diffuse in time and space. No individual carries with himself the sense of the Opinion. There is in reality no state of Opinion. An opinion poll, however, will produce the unitary sense the Opinion through a conjecture about the outcome of a future event.

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

The unity of the meaning of a sign must not be sought in its diffuse reality (informal) but in the conjecture it authorizes.

This unifying principle of meaning does not suddenly and completely transform the thought/object into the thought/subject, it must be considered as an extended and permanent flux of unification whose asymptotic target will be the Cartesian "I", always repulsed by the very principle that generates it.

This principle of unification of the "I" is to be compared with the principle of individuation developed by G. Simondon. (ref 3)

This principle, by which the sign appears One to the thought/subject, also makes us glimpse how the sign seems present to the thought/subject, more precisely: synchronous in the present moment.

The sign is never synchronous in reality (as an object) because, being necessarily complex, it could not be One and synchronous at the same moment.

Since Einstein indeed, we know that in the world as we represent it, the world that common sense still calls reality, the concept of simultaneity of entities separated according to the form of space is undefined; it does not correspond to anything of real.

So a "state of mind" can only mean for the thought/subject and not for the thought/object.

The present moment is only defined for the thought/subject, for the "I"; for this semantic asymptote where all meanings coincide.

If the sign, as an object (which is never really synchronous) appears to be present to the subject, it is simply because the present moment of the subject **is** his state of mind.

When de Saussure decided to exclude the form opposite as a reference for the sign, he should also have excluded the present moment as a reference.

The present moment of the sign, is not an external reference but it is included in its concept, in the concept of each sign and it is the semantic interdependence of the concepts that causes the convergence * of all these present moments to a present moment for the knowing subject, for the " I ".

Every concept includes a present moment that is only valid for this concept.

We must not then consider the "I" as located in a present time that would be vis-à-vis him, but on the contrary consider the present moment as constitutive of the "I", as immanent to the "I".

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

* The term "convergence" is misleading here because the interdependencies between concepts are reciprocal. The impression of convergence is only a question of perspective. On the other hand, convergence is purely semantic; it combines laws of probability whereas at the level of thought/object nothing changes.

The synchronicity of the language representation results from the very nature of what we call the state of mind of the subject: the senses of the signs (considered as containers, logical attractors for the thought) are progressively subsumed towards this purely semantic whole which is the representation of the world by the "I".

At each stage of this semantic aggregation, the "compound" is not the combination of the shape of the "component" signs (Which would be absurd) but the circulation of interdependencies (laws of reciprocal probability).

The present moment of the "compound" concept not formally refers to the present moments of the "components" concepts.

There is not a present time which would bathe the fusion of the components into compound but creation, in the compound, of its own present moment.

The "I" is ultimately the only one to know his present moment.

In reality, there is no synchronicity neither of signs/objects nor of thought/object, but the creation of a semantic present moment in the asymptote of the process of unification/individuation of the knowledge of the subject.

This description relates to the formal concept of present moment but it can be generalized to all the concepts of form.

If it is for the subsumption of the thought/object by the thought/subject, it can also be extended upstream, to the passage from the supposed form of the object vis-à-vis to the sensation.

The sensation is not a transposition of the form of the Real but the creation of predicates; and the concept of being is not the formal fusion of sensations but the creation of a semantic entity including a present moment for it.

Each stage of unification of the knowledge of the world is creation of new forms and new present moments.

This fully justifies de Saussure's refusal of any formal reference of the sign to the object in front of it.

This also justifies this statement by Schopenhauer "The world is my representation", keystone of his ontological vision. (ref 6)

NB It is essential to keep in mind that this principle of unification is semantic and not spatiotemporal, physical or material. Without this permanent effort to distinguish the thought/object from the thought/subject, which is the only one of which we are certain, all ontological reflection is lost in confusion and is finally digested anew by the theology of a world in vis-à-vis.

The purely semantic nature of the principle of unification proposed by the OK distinguishes itself from the principle of individuation enunciated by G. Simondon (ref. 3) . While keeping the general idea that the knowing subject is individuation of the Knowledge, the OK allows a considerable reduction of the number of assumptions a priori necessary to its coherence.

Conclusion on present moment: Thanks to the mode of referencing proposed by the OK, namely: a law of probability on other signs, we have been able to show that the unification of meaning creates not only the form but also a present moment for each concept, that the present moment of a concept is not the present moment of the concepts it unifies and by generalization, that the hypothesis of an actual present time experienced through sensation is wrong.

Reciprocally, the analysis of the question of the present moment applied to the linguistic sign allowed us to show that there is no present moment **in Reality**, neither for the world in opposite nor for the thought/object and that the "I" is the focal point of the build up of a present moment.

The "I", the thought/subject is ultimately the only concept to represent the present moment of his representation of the world.

To somehow paraphrase Schopenhauer: "The *present moment* of the world is the *present moment* of my representation"

The Anima or the subject's time

Having presented what is the present moment of the subject, we try, according to the same strategy of reciprocal illumination of the OK and the philosophy of language, to understand

what is perpetually pushing from one moment to another, the "I" and his representation of the world.

Schopenhauer having shown that: *"the world is representation"* and *"All our representations are objects for the subject, and all the objects of the subject are our representations."* He writes: *"The "I" which represents itself, the subject of knowledge can never become itself a representation or an object, because, as the necessary correlate of all representations, it is their very condition"*. (He then quotes an Upanishad) *"He can not be seen; he sees everything; he can not be heard; he hears everything; he can not be known, he knows everything. Outside of this being who sees, who hears, who knows, there is no other being"* *This is why there is no knowledge of knowledge, because it would require that the subject differs from knowledge and can still know knowledge, which is impossible "*

(Ref 6) §41 p 275 276

Strictly speaking, these juxtaposed sentences would present a paradox: If the world is what I know and if knowledge can not know itself, how could I talk about the world ?

The resolution of this paradox lies in the fact that we, as knowing subjects, are not the great Self of the Upanishad, we do not know "all" but only "all we know" and see only "what we see".

This finitude of the knowing subject is, in fact, the greatest gift that nature may have given him, since it permits the flow of life.

To understand this let's go back to the sign:

The thought/subject is closely associated with the sign/subject (concept/form). We also know that the sign/object is a bottomless complexity.

It follows that the representation of the world by the thought/subject can not reproduce all the detail of the thought/object.

In comparison to the thought/object, the sought/subject is necessarily limited by a semantic horizon, a limit with indefinite contours beyond which it exhausts itself, everything already appearing to it as "named" by signs.

If the thought/subject is blind to what is beyond its horizon; it is none the less interdependent of it.

Knowledge is possibly an infinite course, possibly unfounded, but whose representation is limited by a horizon.

The All of the representation is not the All of Knowledge which is perhaps not the All of the Real.

The Knowledge of the subject is in an unknowable relation compared to all the Real.

Knowledge is incommensurable with the All of the Real.

As J. Schopenhauer writes (and as Goedel demonstrated for arithmetic), it is true that knowledge, as a closed logical system, could not justify its truth, could not represent itself. Only a larger logical system, that is, containing other propositions, could.

But we have seen that knowledge is not a closed logical system, that representation is only limited by a horizon and that the meaning of the sign is a "law of probability on other signs". These other signs are what topology calls the (semantic) neighbourhood of which the sign is interdependent.

Knowledge therefore takes on meaning for itself only as it repels its horizon, as the probabilities contained in each sign are confirmed "by" and "within" its neighbourhood.

The representation only makes sense as and when it increases; because the meaning is precisely the name of the persistence it can conjecture beyond its horizon. Knowledge (which is a course In act, a set of links) becomes "signs" only by its fusion with concepts through new acts, through its own logical extension, because it is in this extension that the conjectures become semantic persistence, signs of themselves. The sign contains in itself the law of probability of other acts, but exists (is stated) only by the occurrence of these other acts. Knowledge contains in itself the law of probability of persistence beyond its horizon, but exists (becomes a representation of itself) only by the unveiling of these persistence. This disclosure is irreversible, although the links of interdependence are reciprocal.

The finitude of our representation of the world and of ourselves, on the one hand, and the need for knowledge to push back its horizon to make sense on the other, constitute the principle of the **Anima**, which animates the thought/subject, the soul of the subject. The present moment being, in essence, linked to the "I" of the thought/subject, the progressive unveiling of new signs is interpreted by the thought/subject as a change in the representation, as a time of the world, whereas it is a change of point of view. Note (and G. Simondon stressed it before us) that convergence or individuation is not a process of which the "I" would be the result; but it is the essence of the "I", the same principle. The "I" is and always will be the asymptotic target of the slight unbalance between the expansion of the knowledge and the convergence of the meaning. It follows that the progressive unveiling, the change of point of view does not reveal another "I". Although it results from an expansion of itself the "I" always knows himself as "myself".

In conclusion and in reply to Schopenhauer, the subject is not, for himself, an object of knowledge. Nevertheless, he exists to himself and gives meaning to the world, he knows his thoughts by perpetually and contingently pushing his horizon of representation *. As a point of view it is in essence the focal point of this expansion. The Anima animates both the representation that the subject has of himself and of the world, and a subjective time that seems to him the time of the world. The form time is consubstantial of meaning. * One would be tempted, for convenience, to say that the subject knows only past thoughts and events, but it would give an objective meaning to the word "past", that is, to time; in opposition to what we have shown. The semantic loops by which meaning exists do not "expend" time/object but create for themselves a present moment.

The question of the truth and its actuality

The difficulties encountered by the philosophers of the 20th century to give a satisfactory definition of the concept of truth are perfectly summed up by the ref 1, so we won't go back on it.

Defining the truth by reference to the world always leads to a self-reference.

To say "it is true that the snow is white because I see it white" is not satisfactory

To say "it is true that the snow is white because all humans see it white" is not more satisfactory.

To say "it is true that the snow is white because all the white objects that I show to a patient excite in his brain the same zone as the snow" does not release us more from self-reference.

Defining the truth of a proposition by logic is also a dead end, since it leads to a hierarchy of theories such as :

Snow is white

The proposition "snow is white" is true

Proof that "the proposition "snow is white" is true"

Proof that "the proposition "the snow is white" is true" is provable

Without ever finding a prime proposition that would not need to be proven

The mode of referencing and the definition of the present moment as described in the preceding pages will allow us to simplify considerably this definition of truth.

We have defined the meaning of a sign by the law of probability it contains on the appearance of other signs in its semantic neighbourhood.

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

Each of these sensations contains in it a small probability of the other sensations and the concept of "snow" is nothing other 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 therefore not "composed" of these sensations, nor is it the "container" of these sensations.

The form of the concept of snow is not in relation to those of its components

We have seen in particular that the concept creates its own present moment.

This circulation of probabilities is in the present time of the concept, simultaneous, without duration. It is therefore no longer a question of probabilities or expectations, nor of conjectures but of a self-determining truth, of a logical, semantic loop.

It is not based on the truth of its semantic "components" but on the reciprocity of their interdependencies. Every concept is true to itself just as much as it is present to itself. In this truth, the truth of the sensations, signs, concepts that it unites is unimportant, only account their interdependence.

This building up of truth continues throughout the merging of concepts through their interdependencies, up to the eternally present truth of the "I" and its representation of the world.

Conclusion on the truth

The Reality has no form, no truth.

The truth of any concept is in the closed-loop circulation of interdependencies that constitutes it, unrelated to the truth of the concepts it unites.

The truth of the "I", the cogito, is the asymptotic truth following this principle of union.

The world is my representation, my representation is the world

The set of logical inferences that make up the representation of the World, our theories of the world, efficiently anticipates our future experiences.

On the other hand, there are reasons to doubt the existence of forms opposite, in a physical world.

The form as a reality is an improvable hypothesis while the existence of the logical link and its attractors is certain.

So why not leave what is uncertain?

Why not choose the most economical option in assumptions *a priori* ?

Why not reverse the question of intelligibility?

Why not replace the question: " *How is the world intelligible to us ?* "By the questions:" *How does a Knowledge diffuse and structure?*"; "*How does it give meaning to the world?*"; "*How can it so robustly predict its own future?*"

The answer to these questions can be deduced from the preceding paragraphs:

There is no physical world outside knowledge.

My knowledge is not a small portion of the world that looks at the world. My knowledge is the world I know. My knowledge is not the state of my brain/matter determined by the physical world. My knowledge is not either a non-substance which, from an aether of ideas, would represent the substantial world.

The world I know and my knowledge are one and the same thing, the same logical system.

There is not the world on one side and its representation in my head. My knowledge is not a proliferation of immaterial links that extend to infinity of time and space, since in reality there is neither time nor space.

There is not really an inside and an outside of me, a vast universe with me in the middle. All this is representation.

It is because the reality is formless, vacant of form, that my knowledge can give it forms.

My knowledge is not the result of an extraordinary series of chances that affected the physical world for 14 billion years to finally give birth to a conscious being.

My knowledge is the laws of chance themselves, In act, which order, with my point of view as origin, a formless and actual All.

There is not the laws of the world on one side and on the other side the laws of knowledge but one and the same law by which the world that I know takes form in my point of view.

There is not a world that has forms and forms that my knowledge gives to it, but the same forms that is both the world I know and my knowledge.

The world is not as I understand it, the world is what I understand and what I understand is for me the world.

If the laws of the world prove to conform to our knowledge, both to our immediate sensations and to our general concepts, it is because the laws of the world are those of knowledge.

If we can anticipate and verify by infinity of experiences what seems to us to be "the laws of the world", it is because the laws of knowledge, which are also the laws of the world, are (almost) infinitely persistent, deterministic.

If we can exchange, from one mind to another, the same vision of the world, it is not because there is a same world in relation to our minds, but because firstly the laws of knowledge are the same for you and me and secondly because we share essentially the same interdependence with Reality.

The future of the world is the future of knowledge:

"*The world is what I understand and what I understand is for me the world "*

It is not the world (in front of me) that becomes, it is my knowledge that changes its point of view on the world.

It must be understood that thought/object is neither a "state" nor a "change of state"; the course of thought is logical, not material.

This logical course is that of a "point of view" that is itself logical, and it is this change of point of view that generates the representation of physical change.

The change of point of view does not need anything to change, only that neighbouring logical links are considered as part of the Knowledge.

Imagine a mathematician.

He thinks his mathematical theory.

This theory consists of theorems, themselves consisting of coherent sets of inferences.

New inferences come to his mind: "*since (E) is proven true, and since "if (E) then (F) " so "(F) is true" .. etc* . If we admit that mathematics is true, we must admit that the inference "*if (E) then (F) "* and the proposition "*(F) is true "* were true before our scholar discovered them.

Thus, the scholar's thought is diffusing into an immutable logical truth, without change of state. Nothing has changed in the logical reality observed by our scholar, and yet his representation, his knowledge has changed.

This change is logically irreversible: what is proven true is true forever (in principle). Thus, the thought (that is a logical system) increases and orders itself, not physically because time passes, but logically because certain logical truths are dependant of his, i.e. because his truth unveils neighbouring truths.

So our scholar's sees the time pass, although nothing changes.

It would be useless and impossible to analyze the logical functioning of the brain of our scientist. Not for technical reasons, but for logical reasons that touch on the essence of the quantum problem: If thought (meaning) is not a state but a logical becoming, then to experience it, it would be necessary to change its course, that is, to destroy (stricto sensu) this becoming.

In the ontology that we have just sketched out, to know is to become, to guide one's own becoming.

The observing subject (as a logical all) is what he knows and becomes by what he observes. This becoming is diffusion. In the increased knowledge appear new singularities. These singularities are the new forms represented; their birth is irreversible, just like the demonstration of a theorem.

If, therefore, the observer of an "event", by choosing given observation means, reveals to his knowledge such aspect (a) rather than the complementary aspect $\neg(a)$, it is not the course of reality that is affected by the observation but the course his own knowledge, his becoming (logical).

The observer irreversibly directs his knowledge toward a (logical) world where this aspect (a) of the observed event exists and not the $\neg(a)$ aspect.

In this context, the idea of multiverse is unfounded.

The Universe is not a thing in itself. Reality has no form. Reality is an act and does not become. Only thought becomes.

The becoming of thought is individuation, there is for the "I who thinks" only one becoming which has sense: mine; only one universe that exists: mine and this world becomes as I become.

Although quantum mechanics predicts that various possibilities occur at the microscopic level, there are not several possible futures at the macroscopic level. The possibility of another future is meaningless.

If various possible futures befall at quantum scale, various possible pasts are as well befallen; since the transformations considered are reversible.

The individuation of my Knowledge (the convergence of the past *) compensates for its proliferation (the divergence of the future *) with a single future as asymptote. We find here, described in a new form, the principle of the Logos. The multiverse does not go to the macroscopic scale.

* In reality there is neither past nor future, only what my knowledge understands and what it comes to understand.

Logic as thought and as representation

In his lecture, Professor Vernant sums up perfectly the efforts made by many philosophers of science, from Frege and Russel to the present day, to "*develop a philosophical logic that introduces into philosophy scientific methods*" allowing "*to define (rigorously) concepts and master the rationality of inferences*"

The following sentence of Carnap sets the goal "*philosophy must rely on logic to determine the syntax of science and any rational discourse*"

Professor Vernant's document (ref 1) is so clear that one can only recommend its direct reading.

In the following lines we will try to show, from the conclusions drawn in the preceding paragraphs, that the use of logic, in spite of all its interest for the philosopher, is not a sufficient condition to give a rigorous meaning to a language which pretends to describe the world or express the thought .

For that we will seize some concepts described in ref 1 :

- The formal logic is extensional, it relates to objects (the proposals seen as objects) and wants to ignore the intension (ie the meaning of the proposals, the reference) NB: D. Vernant (ref 7) shows that this statement must be nuanced (without removing its relevance in the context of this article), in the sense that logic is only formally justified by the assumption that its objects are "founded"
- Proposals must be well-formed formulas, that is to say engendrables by logical syntax.
- There are "atomic proposals", well-formed by definition
- The objects are classified in a hierarchy of domains of significance or types, starting from a type 0 containing the individuals then a level 1 containing the classes of individuals etc.
- The propositions are also hierarchical in semantic levels, only a superior level can refer to a totality of propositions of the lower level.
- The language itself is classified in levels, starting from the object-language (ex: it snows) then the meta language (the proposition "it snows" is true) then a meta-meta language (the proposition "the proposition "it snows" is true" is semantics").
- In the preface written for Wittgenstein's Tractatus, Russel writes "*All language ... has a structure about which nothing can be said in language, but there may be another language speaking of the first, having itself a new structure, and to this hierarchy of language there may be no limit*" p. 26-7 (ref 8)

All these concepts have in common to involve a relationship from the simplest to the most complex, from an individual to a totality, from a level of generality to the higher level. Each time these hierarchies presume "upward" a potential infinity, but they never question the existence of a first level.

To say that a proposition is "engendable" postulates, however, that it can be generated in a finite number of inferences; otherwise, being improvable, this statement would be meaningless.

The Wittgenstein of the Tractatus, having perceived this difficulty writes : "*this " is the only expression that makes sense by itself since it is defined as it is stated (ref 1) "*". He may have thought that the direct reference to the object of the world would provide a foundation for the logical constructions relating to reality.

Wittgenstein is mistaken then because "this" postulates that "this exists as such", that I can replace "all that constitutes this" by "this". This postulate is a meta-judgment. Moreover, Wittgenstein did change his mind on this point to state: (ref 9)

105 Any verification of what is admitted as true, any confirmation or denial already takes place within a system. And certainly this system is not a starting point more or less arbitrary or doubtful for our arguments; on the contrary, it belongs to the essence of what we call an argument. The system is not so much the starting point of arguments as their vital environment

These are not isolated axioms that seem obvious to me, but a system in which consequences and premises are mutually supportive.

225 What I hold firmly to it is not a proposal but a nest of proposals.

Language logicians build on sand because there is no object, no being that is not, by necessity, the result of a meta judgment like "this exist"; for there is no being first, neither in language, nor in thought, nor in reality itself.

In a logical proposition, the existential ("there is") and universal ("whatever") quantifiers, imply a quantification domain which is itself a set of entities (beings) whose existence as an entity is accepted.

One can not prove the non-existence of being; however, all physical and thought experiments tending to show a "first substance" of the world, of the thought and the language have failed. To give a ' logician ' formulation, we say that the world is a logical equation, insoluble in its all. None of the logical propositions that can appear is calculable, provable going back to supposed first, atomic propositions.

This incalculability of the sign is not solely related to our own limitations, the preceding paragraphs show that the world is essentially incalculable, without foundation, without first proposition.

The absence of a foundation of the sign and thus of the thought (object) ruins in advance the syntactic rigor of the logic that one would like to apply to them, because without foundation one can not rigorously establish what " this " is, nor that " this" = " this".

Thus (a) must be replaced by (all that {a} is) and the identity $a = b$ replaced by (all that {a} is) has an equivalent in {b} and vice versa); in an infinite comparison that is therefore impracticable. Similarly, to express that (a) is disjoint from (b).

How can a proposition such as $a \rightarrow b$ be qualified as "well formed" when it applies to sensations written $\{a\} \rightarrow \{b\}$ as discussed previously?

Leibnitz has developed a very useful concept for figuring this problem of foundation: the contingent predicate to infinity. The following expression gives of this mathematical concept a simple definition, amusing and yet relevant: "*If you play roulette indefinitely, whatever your initial wealth, you are ruined*"

We note that the truth value of the predicate is not defined by the initial condition but by the rule of the game and that, although contingent, this value of truth is incalculable, except to consider an actual infinity.

One only needs to replace the "consequence" by the "cause" (this is logically licit if the inferences are reciprocal) to understand that when we reference the sensation (the sign, the predicate) to an origin cause (the object, its qualities) we possibly do upward the symmetrical assumption of that Leibnitz used to do downward. We relate the predicate associated to a sensation to a quality that may only be "contingent to infinity"

The reality to which to refer a sensation is therefore incalculable and the proposition "object copula predicate" which expresses it can not constitute a "well-formed formula".

The theory of dynamic systems implements "applications" that are reversible in principle. One may, by reversing the inferences route, show that a sensation (considered as a final condition) can be connected to singularities course, to attractors/causes whose existence is only due to the final condition (the logical sensation/object) and to the rules of inference (the logical syntax) and certainly not to the reality of an "initial cause". I.e. that sensation need not to refer to something real.

This is why the only possible reference of any representation is the knowing subject and the pragmatic affirmation of its existence (the cogito, a formula well-formed or not, provable or not).

Any backward calculation of the logical inferences leading to my thought/subject will stop on a horizon of Knowledge beyond which my mind admits as "calculated" propositions, objects and predicates whose truth is however only singularities of the logical course.

Any predicate of the thought or of the representation of the world will always contain a part of indeterminacy, not as an imperfection, but as an immanence of the Logos itself.

Only mathematics can exonerate itself from this immanent indeterminacy and declare (but it is then a postulate) "there is something One".

To say that logic is extensional is to postulate its foundation.

To conceal the intentionality of propositions is a meta logical decision that is inapplicable to language as well as to the description of reality by the thought.

Conclusion of the chapter

To found its syntactic construction, logic postulates the possibility of atomic propositions as the first level of its construction.

The philosophy of language, the ontology, except at to deny themselves, do not have this possibility.

We have shown that the subject is, in essence, the only reference of any thought and of any representation of the world.

We have also shown that, since the relation of knowledge to reality is unknowable, no relation of equivalence can be established between entities of thought/subject and reality or even of thought/object. Thought, knowledge, representation can not be founded. The essentially chaotic character of the thought, its sensitivity to initial conditions and its lack of foundation, make its modelling impractical by any founded system (logical, arithmetic, digital ...).

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