# Digital studies seminar
Report – January 13, 2015

Nicolas de Warren

"Husserl's writing and the awakening of phenomenological speech"

Nicolas de Warren is interested in the relation between a thought form and its materiality, which leads him to ask the question of how a language becomes philosophical. During this session, he questioned the status of shorthand in Husserl's work: Husserl's manuscripts are not easy to read for someone who is not used to shorthand writing method.

1) The phenomenological project between science and philosophy
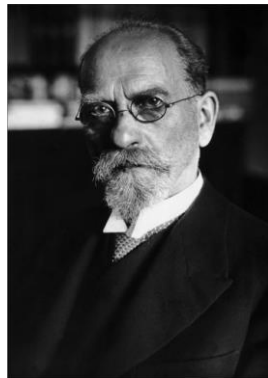
-Phenomenology: a new research program
Shorthand writing method played a constituent function in Husserl's philosophical project, which implies the process of recording and archiving. Phenomenology is conceived by Husserl as a research project: it does not aim at establishing a new philosophical theory or at finding a new answer to classical philosophical problems, but it rather looks to produce a new science. Phenomenology is the discovery of a new field of research and of a new way of thinking. One needs to know that Husserl's approach is linked with a research project and a new way of writing in order to understand the phenomenological initiative.

-Pure phenomenology: a guide towards philosophy
In *Ideen I* (1913), Husserl states that transcendental phenomenology is a new science. As soon as in the book's title, phenomenology is distinguished from philosophy, and Husserl then distinguishes between the aim of pure phenomenology and the one of phenomenological philosophy:
-pure phenomenology is a science which leads to an idea of philosophy
-phenomenological philosophy is the realisation of this idea of philosophy

Pure phenomenology leads to phenomenological philosophy thanks to a new way of thinking, which brings to philosophy's beginnings: phenomenology is a guide to philosophy. It is a new discipline which searches for new problems, the true problems of philosophy, and such a research implies a new form of thought.

-Phenomenological method and the awakening of thought
According to Husserl, phenomenology implies a new research method, which needs to be suitable to the object it aims at examining. Phenomenological reduction is a method which has to discover its object, which is not there before. It is by searching its object that the thought awakens to itself, and it is at this moment that writing practice becomes really important.

2) The awakening of phenomenological speech: a language « epochè »

-Phenomenological reduction and allegory of the cave: suspension of natural prejudices
According to Husserl, the phenomenological reduction is a repetition of the paradoxical situation of philosophy, illustrated in Plato's allegory of the cave: the reduction implies a radical suspension of every habit of thought, which has to be neutralised in order to be able to begin to think again, without the prejudice of philosophy.
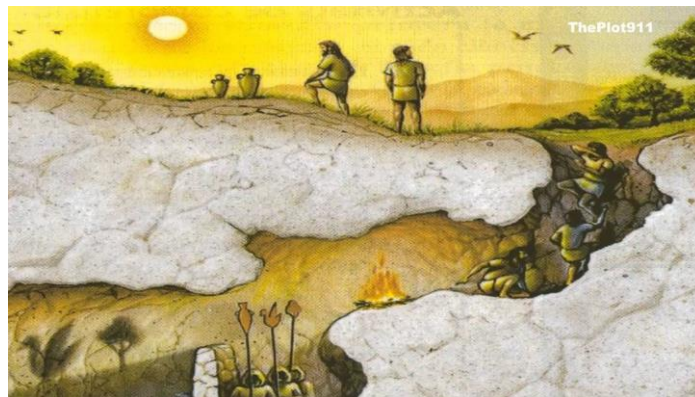
-Phenomenology against the institutionalization of philosophy
This "philosophical prejudice" is due to philosophy's institutionalization, which is the institutionalization of a thought which has lost the signification of thought: what does it mean to think? Phenomenology is an answer to the first philosophical crisis, as the professionalization of philosophy. It is a violence against thought's habits, against institution, and also against language.

-The problem of the intelligibility of phenomenological language
The philosopher has to free himself from usual forms of thought, but he also has to come back into the world after the suspension of this natural attitude, and then, phenomenology becomes incomprehensible, because it speaks a language without any history, it looks for an absolute beginning, pure from any traditional concepts or inherited significations. This constitutes the awakening of phenomenology to its own speech.

-Husserl's attitude toward philosophical language
The last paragraph of *Ideen I* shows Husserl's attitude towards philosophical language: Husserl wants to avoid the technical vocabulary which is typical of philosophy, in order to escape from its conceptual legacy.

-For example, he refuses the German word « **Wesen** » (translated in English by « essence ») and replaces it with the Greek term « eidos », as to introduce a neutral word empty of any history.
-But he cannot eliminate the German word « **Real** » (translated in English by « real ») because he does not find a word to replace it: in the phenomenological discourse, the word "real" is not sufficient.

Phenomenology thus begins with a first « epochè », an « epochè » which is introduced before the phenomenological « epochè » itself. The philosophical concepts have to be suspended because they are not defined on the basis of accessible intuitions. According to Husserl, the research cannot begin with concepts already charged with sense: it is necessary to invent concepts in which the things which are to be thought can show themselves. This vocabulary which breaks with technical classical discourse as well as with history of philosophy is an object of research and creation.

-Phenomenological discourse as a polyglot composition
Husserl wants to avoid any vocabulary rooted in the history of philosophy but he cannot choose words outside of the philosophical field. Thus, phenomenological language is no more situated in the history of philosophy than outside it: combined ways of speaking are necessary. Phenomenological discourse is a polyglot composition. Husserl puts together different vocabularies (those of Kant, of Brentano, or of mathematicians for example) and confronts them in order to renew the philosophical discourse by de-territorializing and re-territorializing concepts.

-A new criterion of rationality
Phenomenology as a science implies a new rationality principle: the rationality of a concept can be measured through its "fructuosity". A concept has to be fruitful, that is to say, it must be able to receive what is to be thought. This principle supplies phenomenology with a criterion of scientificity: phenomenology's rationality depends on the fructuosity of its research.

**3) Phenomenological thought and shorthand writing method**

-The role of writing in Husserl's thought: to think is to write
Husserl's written work can be understood as the materialization of this rationality aiming at creating concepts. Husserl produced some records which are the written marks of his thought. According to Husserl, to write is to think, writing is the practice of thought.

-Husserl's work as a distributed object
Nicolas de Warren understands Husserl's work as a **distributed object**. This notion was developed by Alfred Gell (a British anthropologist inspired by Husserl's theory of time). In *Art and agency : an anthropological theory*, Gell proposes to consider an artist's work as the totality of the different pieces of work (more or less finished) he produced during his life, and which are thus distributed in time: rough versions, drafts, complete works are the different moments of a temporal set. Each document, each sentence left by Husserl can be considered as a part of a distributed object: Husserl was always re-writing and correcting his previous

manuscripts. Writing can be considered as the materialisation of the temporality he was trying to think phenomenologically.
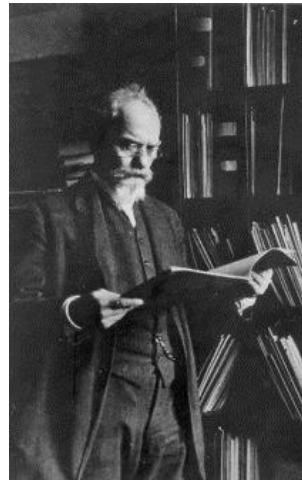
-The invention of a virtual universe before digital technologies

The production of the Husserlianas results from a choice of sequences: the publisher organises the manuscripts according to a linear order, thus establishing an actual line in a virtual universe. Nowadays, thanks to the digital technologies, it is possible to proceed inside the distributed object constituted by Husserl's work. The virtual edition of the manuscript is the only authentic edition of Husserl's thought (because Husserl himself did not organise his writings according to a linear order). Husserl thus created a digital universe before the invention of digital technology.

-The role of shorthand writing method in the production of thought

Contrary to his courses, Husserl's manuscripts are written into a telegraphic and exploratory style. In his manuscripts, Husserl does not use any grammatical structure: the reader has to build it in order to understand the sentence. Husserl did not write to tell what he knew, but to find what he has to think, to understand the object of his thought. He investigated by re-writing and re-inscribing the grammar of philosophy. He used Gabelsberger's shorthand, a common shorthand system in Germany: the writing's speed enabled him to capture his thought and to produce them at the precise moment he had them. This writing method combines the flexibility of thought and the solidity of writing. Thought has to materialise itself in writing in order to be produced. Shorthand makes possible a sedimentation of each line of thought, as well as the repetition that Husserl practised through writing, as if he was trying to make something appear.

Giuseppe Longo – Origin of arithmetic and origin of geometry

[Giuseppe Longo](#)'s lecture sheds another light on Husserl, by grounding his work in the debate about the foundation of mathematics. In this presentation, he first defines this debate in the history of mathematical thought and then considers Husserl's intellectual contribution.

I – Geometry and relationship to physical space

A – Euclidian foundations

Until the mid-nineteenth century, [Euclid](#)'s geometry was the foundation of mathematics and, thereby, of the meaning of mathematical physics. Mathematics was supposed to **coincide perfectly** with space, as well as geometry figures with the figures of external space. When the German mathematician [Bernhard Riemann](#), during his habilitation in 1854, carries out the negation of [Euclid's fifth axiom](#), thus paving the way for "[non-Euclidian geometries](#)", he therefore triggers a fundamental rupture in the very structure of space – a rupture that can also be found in [Poincaré's](#) work and the theory of relativity.

Euclid

B – The problem of measure

One of the key problems in this debate on the foundations of mathematics and their relationship to space is the notion of **measure**, which implies an interval and is essential in the geometrical construction of space. The debate about measure is crucial: for example, between the end of the 19th and the beginning of the 20th century, it is the source of a revolution in the relationship between space and mathematics, where the **equations** which talk about the world have to be related to the world through a measure.

II – Logical / linguistic turn

A – In mathematics: Frege, Hilbert

A second crucial step in the reflections on the relationship between geometry and space and on the meaning of mathematics took place at the end of the 19th century with the logical and linguistic turn of some mathematicians and philosophers such as **Frege** and **Hilbert**.

Logician, mathematician and philosopher Gottlob Frege published *The Foundations of Arithmetic* in 1884. He was the author of the modern propositional calculus, the **predicate calculus**. Considered as a **logicist**, and a precursor of analytical philosophy, he also created an **artificial language** thanks to logical symbols and thus entirely formalized the logic to make thereof a calculation.
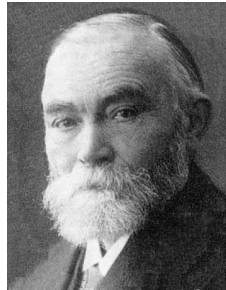
Gottlob Frege

David Hilbert is the author of a **formal writing of axioms**, without reference to the meaning, where deduction is always potentially mechanized (see the decision problem). It then deals with the construction of formal mathematics. What is necessary is the consistence of theories, one sets aside the meaning, especially the spatial, geometrical and physical meanings of these theories, as well as the problem of measure which yet was essential at the time.

Hilbert thereby sets up an **ontology independent of the gesture**. One understands the main difference between Euclid's approach – with his first axiom "Trace a segment between two points" – and Hilbert's approach – who reformulates it without integrating the gesture: "For every pair of points, there *is* a segment".
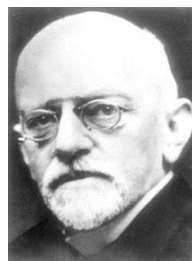
David Hilbert

For this logician trend, there is a rupture between mathematics and the physical world:
- In the physical world, there is **unpredictability**, quantic indetermination…

- Within mathematics, on the contrary, everything has to be **decidable** and **predictable**. For Hilbert, one must save mathematics from the crisis of the physical world.

However, these reflections are challenged by **Gödel's theorems**, which showed in 1931 that there are some undecidable propositions, and that arithmetic consistency cannot be formally demonstrated.

## B – Application in the biological field

François Jacob

The radical detachment from meaning of logical formalism also had harmful consequences on the biological field. Indeed, **DNA** is conceived by some biologists like François Jacob as an inscription, the description of a complete alphabet in biology, but without any link with the meaning. This idea can notably be noticed in **François Jacob**'s inaugural address in 1965 for his Nobel Prize of Medicine: he says that DNA takes the form of alphabetic writing and not Chinese ideograms, and transmits itself in a potentially mechanized way according to a Cartesian mechanism. Similarly, **Jacques Monod** wrote that genetic diversity consists in **imperfections** and **noise** compared with the mechanized repetition. But for Giuseppe Longo, saying that diversity is noise is not a scientific but a political proposition. Giuseppe Longo's reflections on these biological problematics can notably be found in a book he co-wrote with Maël Montévil, *Perspectives on Organisms: biological time, symmetries and singularities* (2014).

Jacques Monod

III – Thinking Husserl's *Origin of Geometry*

A – The meaning of mathematics
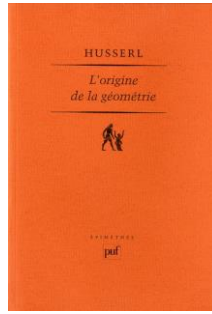
Giuseppe Longo introduces the role of Husserl in these debates through a beautiful quotation by **Maurice Merleau-Ponty**: « *Une ontologie qui passe sous silence la nature s'enferme dans l'incorporel et donne, pour cette raison même, une image fantastique de l'homme, de l'esprit, de l'histoire* » (*Résumés de cours*, Gallimard, 1990, p. 91).

The starting point of Husserl's research is indeed to wonder: what is **behind axioms**? Without this question, geometry would be a **meaningless** tradition. Husserl is thereby opposed to the **formalist tradition** which then was prevailing in Germany. He meditates on the formation of original meaning ("In language, there is an iterative production of the sense of the soul") and on the role of **writing** (which stabilizes concepts and logics).

What are logic rules? They are **transformations that preserve the meaning**. In mathematics, unlike logics, the notion of transformation regarding some invariants takes place in a certain **context**: a space is needed, it is necessary to frame the transformations and rotation in a space. This is why, **against logicism**, logic rules have to be framed. Logics establish the **playground** of mathematics; it sets its limits; but afterwards we must determine to which game we play, how is the ball, its form, the players' body, their presence…
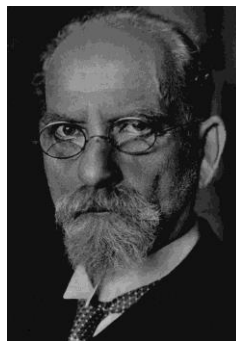

Edmund Husserl

Each time, the **meaning of logic rules** has to be **reactivated**. One understands the meaning of a continuous line only thanks to the continuous gesture that we experienced when tracing it on a blackboard. Without this tracing, the formal definition is meaningless, it does not allow any proof, and moreover it does not allow any new invention. There is a crucial importance in the relationship to the **phenomenal gesture**, which is foundational. Having reactivating the meaning, Husserl proposes another definition of mathematical invention. According to him, we should forget the idea that **epistemology** is separated from **history**: epistemology is itself historical, and the archi-evidences he describes in *The Origin of Geometry* are historically

structured and sedimented themselves, in the communicating community where generations follow one other in the mathematical practice through a common history, based on writing which allows the reactivation of archi-evidences. This is why Husserl criticizes historicism on several occasions.

B – Line, outline and tracing

In *The Origin of Geometry*, Husserl refers many times to what is "behind axioms", and then to **these gestures which organize space**, which set **outlines** and give a meaning to the world by making **cuttings**. Even before axioms, there are these gestures, which are genuine foundations of geometry and consist in **drawing edges**. Our ancestors in **Lascaux**, 18 000 years ago, first drew full objects and then only the edges. These edges are the origin of the cutting of things. They are the very knowing, the core of our perception, and they have a central place in *The Origin of Geometry*.
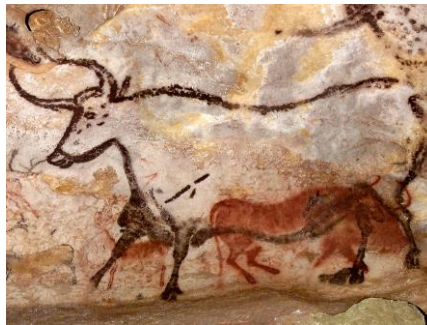
One reminds that Euclid already described the line as a "**length without thickness**". All Euclid's figures are only lines, lines without thickness: Euclid has the audacity to detach this edge, coming from a gesture, to make thereof a structure in itself. As for the point, it is a sign, resulting of the intersection between two lines. Gestalts are the structural foundation of Greek geometry, and it is the symmetry, the tracing of the outlines of these lines, which give a true meaning to axioms.

In Euclid, there is a whole thought of the gesture, of the tracing. For him lines are trajectories, they are tracings made by a gesture; they are not made with points since they are gestures, and points only are intersections between lines. Thus, each proof is given in its meaning context. Euclid gives a solution of continuity in the proof: a line without thickness is continuous from the moment that if intersects another line without thickness. There is always some **implicit**, which calls for the necessity of a **reactivation of the meaning**. This is exactly the definition of **concrete incompleteness**: the fact that the proof refers to symmetries and gestures that cannot be formalized or deducible from axioms in a potentially mechanized way. For Euclid, this talent of reactivation of meaning within mathematical theory guides the invention, but it gets lost in pure formal deduction. And Husserl in turn criticizes formalism in order to come back to Euclid's gestures and tracings: "Geometry is generated in our space of humanity from a human activity".