
TOWARDS AN ONTOLOGY OF EXPERIENCE. METHODOLOGICAL REFLECTIONS¹

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*A tribute to the memory of my grandfather, Louis Verelst,
to whom I owe the insight: "niet slechter, maar anders".*

wie selbstverständlich ist doch das Gegebene.
Wittgenstein, *Philosophie*²

ABSTRACT. This paper attempts to throw some new light on the profligate globalization of the scientific and technological practices of present-day capitalist society by reckoning the specific ontology encoded in their procedures by means of which they operate. It is shown that the separating intervention in reality proper to these procedures, cognitive and empirical, can be traced back to the principles of the logical system underlying them since European Antiquity. This logical system allows for the generation of worldviews that, although at variance amongst themselves, share a fundamental feature: the separation between subject and object, between static and dynamical, between man and world. The practices arising from such an externalized relation to the world then again amount to the imposition of an ontology upon reality that is not fit to it. In a subsequent movement, the argument leads to the question whether traces of a another intrinsic relation between man and world can be found, based on a different ontology. It is argued that such traces can indeed be found. Cases studied concern an example from within European culture itself, viz. the philosophy of L. Wittgenstein, and from another cultural realm, cq., the Chinese classical tradition. In a concluding paragraph the conditions for, and an outline of, a possible interrelation between the different ontologically marked approaches to our world are sketched.

KEY WORDS. Ontology, philosophy of science, metaphysics, logic, epistemology, cultural sciences, mythology, anthropology, methodology, Wittgenstein.

INTRODUCTION

Our time is marked by the contrariety in appreciations of its own significance. Some proclaim it to be the fulfillment of all the aspirations humankind might ever have, while by the same token others think no more nor less than that it represents but the final stage of an auto-destructive

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civilization⁴. Another way in which this clash manifests itself is the globalized spread-out of this civilization's uniform productive procedures and its simultaneous cultural fragmentation, both morally and intellectually⁵. This is also a way to ascertain that the contrariety in valuations touches somehow the processes governing our world's present condition. This is quite a strange thing. Other periods of history have witnessed times of turmoil and transition, but never the uncertainty of their proper self-consciousness has been so outspoken. I believe *all* these valuations to be right to some extent, and that this is exactly what makes our time so difficult to understand.

SCIENCE AND TECHNOLOGY
AS "ONTOLOGICAL MOLDERS"

A commonplace to the aforementioned attempts on assessment is the unshaken belief in the aptness of science and technology to solve whatever problem we may possibly be confronted with, even when this belief appears as the fear for their capacity to do so⁶. I therefore propose to postpone whatever judgment until some more light be shed on the exact nature of the role played by them. I developed elsewhere a preliminary attempt to do so⁷. Summarized in a nutshell, the main idea is that the successes of science in explaining reality and in interfering with its course are not due to the "correctness" of its reality-description, but to the fact that the logical rules governing both its inferences on the cognitive level, and its observations on the perceptive one, are truly ontological molders, "shape-givers," not merely "objective representations." As Heidegger put it in his characteristically penetrating way in his lectures on logic:

The most acute crisis of today's science might consist precisely in having no suspicion of the crisis in which it is involved: in other words, in believing that it has been sufficiently confirmed by its successes and palpable results. But nothing spiritual, and nothing which is to dominate as a spiritual power and is supposed to be more than a business, can ever be validated by success and usefulness⁸.

I do not want to say, however, that what science offers us is "unreal" in any sense; rather that it passed through an ontological sieve—the experimental procedure—at the core of which is a separative intervention on the level of perception identical to the one achieved by logical reasoning on the cognitive level⁹. And we tend, when trying to understand the results of science, to forget this ontological sieve¹⁰. I also believe that it is possible to be more precise about the ontology behind these formal and experimental interventions: since both of them are grounded in logic, i.e., based on the Principle of Contradiction and the Principle of Identity, their ontology must by necessity be Eleatic, which means that processes of

change or motion have no intrinsic place in it. This holds in accordance with the structure scientific theories actually take: the dynamics governing a system under consideration is by no means included in its state-description, and should always be "imposed" from the outside¹¹.

But then, what exactly did we lose out of sight by forgetting about ontology? Again, Heidegger is clear enough:

(...) From the standpoint of historical reflection, the advanced modern science of nature is (...) altogether caught in the web of its own methodology, and notwithstanding all its discoveries, it lets escape what is genuinely the object of these discoveries: namely nature, and man's relation to it, and man's place in it¹².

Our question therefore presents itself as to whether it is possible to discern alternative ways that would allow us to gain access to the nature of reality. How to tackle this problem in a way that makes sense? I would like to advance the idea that we should try to approach reality as it is given, i.e., without the ontological *détour* effectuated by the exact sciences. I propose as a working hypothesis that *the ontological condition of reality as such can itself be subject of investigation*. Do we have any preliminary indications as to what we are looking for? I suggest we do. I indicated above that the ontology codified in the procedures of science is Eleatic by nature, as a consequence of their logical constitution. I think therefore that it would be a good way to proceed by looking into the origins of logic in the first place. This throws us back to Ancient Greece. It is well known that logic originated in Ancient Greece, more precisely with Plato and Aristotle¹³. What is less known is that it was presented by them as an invention, not a discovery, and that it was developed as a reaction to ways of thinking done before. What exactly was the subject-matter of this earlier, so-called pre-Socratic thought? It was the work done by the *physikoi*, the natural philosophers, and their successors Heraclitus of Ephesus and Parmenides of Elea. And the subject-matter of their work was reality as such, the nature of Nature, so to speak¹⁴.

In present-day terms we could say that the research of the pre-Socratics concerned the ontological condition of our world, and therefore of us, living in it. The problem, according to the Classics, was that their thought amounted into contradictory results, into *paradoxes*, especially where it came down to understanding two flagrantly conflicting but nevertheless undeniable facts, namely that we experience at every moment reality as existing, and at the same time as changing from moment to moment. Stated otherwise: at this instant, everything *is*, but nothing retains this identity outside this same instant. Hence we encounter the paradox in its most absolute form: Being and non-Being collide in the world, regardless where and when we perceive it¹⁵. This situation was diagnosed by the

Classics as a disaster. Lack of stability in reality would imply lack of clarity in our knowledge of it, and accordingly, lack of certainty in our actions. This was accredited to previous mistakes of conception, and logic was developed to cure them¹⁶. *An ontology was set up to grant for its validity*. This whole system—logic as a method to attain valid knowledge and an ontological reality-reconstruction supporting it—was handed down to us throughout tradition in its Aristotelian form. Its aim was to exclude paradoxes and, for an enormous period of time, it succeeded. The three fundamental principles of Aristotelian logic: The *Principle of the existence of objects of knowledge*; the *Principle of Contradiction*, and the *Principle of Identity* are to be interpreted as formal codifications of the ontology at their base:

All scientific disciplines find their guiding principles and operational maxims grounded in ontology and legitimized by it. Ontology decides whether our logical systems are empty plays with symbols or formal descriptions of what “really” is. (...) A system of logic is a formalization of an ontology¹⁷!

The problem of the possibility to grant for non-contradictory change and motion was solved within the framework of that ontology, and separate from the logical reasoning-apparatus itself. This ontological foundation, however, disappeared during the Renaissance, and was replaced by the results of what we know today as exact science¹⁸. Regarding the latter this permits us, methinks, the formulation of two tentative conclusions: 1) its world-description fits the formal instantiation of an ontology which was explicitly designed so as to not comply with our experience of reality as it is given, and 2) the most striking feature of its formalism is that it only codifies the static, Eleatic part of that vanished ontology¹⁹. I think this is in full agreement with what we asserted before about conceptual problems at the core of contemporary scientific theory-building. I also think this sheds some light on much debated matters in the realm of the history of science²⁰. I have to excuse myself for the length of this *excursus*, but it will prove necessary for the correct understanding of what follows.

Our next step will be to evaluate whether the interpretation of the Classics—and everything that followed out of it—was the only possible way to deal with the pre-Socratic legacy. I dealt elsewhere²¹ at length with this question, and I will confine myself here to a short outline of the conclusion reached: it does not. There is at least one other, valid way to interpret the contradictory results of pre-Socratic thought. It is to accept the expression of both fundamental aspects of world-experience as valid descriptions of aspects of our world’s ontological condition, i.e., the acceptance of reality’s ontological paradoxicality. I described the participation of the individual in this paradoxical ontology as being located at the center of a *sphere of Being*, in which all experiences of reality coincide²².

The philosophical principle shoring up the description of this ontological condition is the *coincidence of opposites*, conceptualized clearly for the first time by Nicolaus Cusanus²³, but with an ancestry that reaches back to the pre-Socratics and the Vedas, and leaves traces in the mythologies of various cultural periods and realms. Our tradition, however, avoided and often even prosecuted both its articulations and students, because the dominant paradigm, based on logically structured *representations* of reality (worldviews) mutually at variance themselves, could not permit itself to be open to such a threat to the ontology common to them all, and codified epistemologically in the principle of identity and the principle of contradiction²⁴.

Now it is our duty to see whether taking this position could bring us somewhere, closer to reality. Since we have by now clarified a little the nature of our subject-matter, it is about time to take up again the working hypothesis I formulated before, namely that the ontological condition of reality as such can itself be subject of investigation. Do we have any clues as to the methodology to be pursued? Again, I think we do. There is at least one contemporary philosopher that could guide us, at least when we are prepared to learn from his advise. This philosopher is Ludwig Wittgenstein.

A ROAD TOWARDS REALITY?

At first some comment by means of introduction. *Why* should I think that Wittgenstein could be our guide? Because of a remarkable feature I noticed when overlooking his philosophical career. Common wisdom holds that there are two Wittgensteins, the “first” one was concerned with logic and wrote an hermetic masterpiece, the *Tractatus Logico-Philosophicus*; the “second” one left us with a set of brilliant—according to some, incomprehensible—reflections on natural languages in the *Philosophische Untersuchungen*. It is as if he united within the course of one lifetime two fundamentally different attitudes regarding language—a Parmenidean one and a Heraclitean one. The period of the *Tractatus* would then coincide with the Eleatic point of view: *Die Welt ist alles was der Fall ist*²⁵, the collection of states of affairs. *Die Gesamtheit der bestehenden Sachverhalten ist der Welt. Der Satz ist ein bild der Wirklichkeit. Die Wirklichkeit muß durch den Satz auf ja oder nein fixiert sein*²⁶. It is no coincidence that the Eleatic period is also the logical one. His later work, the *Untersuchungen*, but also number of other writings of the period, corresponds with a “Heraclitean” turn in his thought: *Das Gespräch, die Anwendung und Ausdeutung der Worte fließt dahin, und nur im Fluß hat daß Wort sein Bedeutung*²⁷. *Nur in dem Fluß der Gedanken und des Lebens haben die Worte bedeutung*²⁸. (...) “I neglect that which goes without saying’ (...) the very essence of experience, the appearance of the world, the world. Couldn’t I say: If I had to add the world to my language it

would have to be one sign for the whole of language, which sign could therefore be left out ²⁹."

Two very different ways of understanding, indeed! But the truly remarkable thing is that something common underlies them both: the idea that linguistic expressions *show* the world instead of describing her. As a logician, he develops the idea that logical propositions are pictures of states of affairs and that the totality of valid propositions gives us therefore a picture of the totality of the world, but *not* as a kind of representation. What is shown can itself not be expressed: *Der Satz zeigt die logische form der Wirklichkeit. (...) Was gezeigt werden kann, kann nicht gesagt werden*³⁰. And even clearer in his notes dictated to Moore: "Logical so-called propositions show the logical properties of language and therefore of the Universe, but say *nothing*³¹." The later Wittgenstein holds that the plurality and mutability of reality as we experience it is contained in the *Sprachspiel*, the 'grammar' or usage of the words and sentences of natural language. *Das Wissen wird eben nicht in Worte übersetzt, wenn es sich äußert. Die Worte sind keine übersetzung eines Anderen, welches vor ihnen da war*³². *Wir müssen geduldig prüfen, wie dieser Satz angewandt werden soll. Wie rund um ihn alles aussieht. Da wird sich sein Sinn zeigen*³³. The method has remained the same, even the subject-matter did not change. His actual subject-matter was identified already early in his career: *Ja, meine Arbeit hat sich ausgedehnt von den Grundlagen der Logic zum Wesen der Welt*³⁴. His is an ontological endeavor. One cannot help being reminded of Parmenides's ἰλήθεια³⁵. But why did he shift his attention from logic to natural language? He did so, I suggest, when he realized that what is shown to us by the formal structures of logic is not the nature of *real* reality, although that was what he was looking for.

Now, if reality is shown, then there should be someone to see it. *Who* is it that "sees" reality, glaring through linguistic form? *Ich*, he says, but beware, *Das Word "Ich" bezeichnet keinen Person*³⁶! "What is seen I see" (pointing at my body). *I point at my geometrical eye*³⁷, saying this. *Or I point with closed eyes and touch my breast and feel it. In no case do I make a connection between what is seen and a person. "But I am in a favored position. I am the center of the world."* (...) *When I say I play a unique role I really mean the geometrical eye*³⁸.

This is the clue to his remarks on solipsism. Its idealism is untenable: *But the real question for me here is: how am I defined? Who is it that is favored? I. But may I lift up my hand to indicate who it is; it nevertheless comes very close to the truth, although it misleads one if one sticks to it. But here solipsism teaches us a lesson: it is that thought which is on the way to destroy this error. For if the world is idea it isn't any person's idea. (Solipsism stops short of saying this and says that it is my idea*³⁹.) One should go beyond it: *Hier sieht man, daß der Solipsismus, streng durchgeführt, mit dem Realismus zusammen-*

fällt⁴⁰. Wenn Einer sagt "Ich habe einen Körper", so kann man ihn fragen "wer spricht hier mit diesem Munde⁴¹?", "Es denkt". Ist dieser Satz wahr und "ich denke" falsch⁴²? Die Welt und das Leben sind Eins⁴³. You are at the center of your world, but *your* world coincides with *the* world. The world has an innumerable number of valid centers. It is this condition that I described in an earlier account as "the sphere of Being⁴⁴." The philosophical endeavor is to learn to *see* reality through its linguistic instantiations, and in doing so to clarify our thoughts about our condition. Reality is given. It doesn't make sense to try to *construct* any ontology⁴⁵. Wittgenstein is not the first to formulate this insight: *Although the Logos is common, the many live as though they had a private understanding. (...) Listening not to me but to the Logos it is wise to agree that all things are one*⁴⁶. We are back with Heraclitus! And understanding of this can only be *shown*, made apparent by means of a sign, as in the Delphic oracle: *The Lord whose oracle is in Delphi neither speaks nor conceals, but gives a sign*⁴⁷. The Logos expresses Being in its coming-to-be through every-body: *wer spricht hier mit diesem Munde*⁴⁸?

This opens up another very promising perspective. If Wittgenstein is correct in supposing that the utterances of ordinary language bear visible traces of the real, then it should be possible to generalize his method to all aspects of "unmediated" reality-experience. To our bodily experiences, for instance, as Wittgenstein himself repeatedly states; but in fact, at least to everything in which aesthetics (in the original sense of 'perceptivity') is involved. And since the historical and cultural ubiquity of the principle that 'I' and 'world' ultimately coincide stands beyond doubt⁴⁹, it might prove fruitful to turn our gaze towards other cultural traditions for hints on methodologies concerning reality-experience going beyond the linguistic domain. Our inquiry into the possibility of alternative ways to approach reality directly thus leads us naturally towards comparative studies, with a definite perspective and subject-matter at hand.

I want to illustrate this point by means, at first glance unusual, of an example stemming from the Chinese classical tradition. This might come in as a surprise, because for evident reasons I can rely only on secondary sources, but I believe I can explain this step as a truly instructive analogy, and not as a merely intellectual pose.

We tried before to extract some information on the ontology of reality as it presents itself to us from sources ancient and contemporary, belonging however to our own cultural tradition. It appeared that reality is experienced as a stream of events in which opposites coincide. Such ideas also belong to the corpus of Chinese philosophy. "In Chinese philosophy, *Yin* and *Yang* are the two cosmic forces that shape and balance all life. They are opposites in a continual state of flux and tension, and through this dynamic they produce life⁵⁰." The energy animating the two principles is called *ch'i*, the breath of nature⁵¹. This is an interesting point,

because the concept of a “life-breath” animating every-body is not only common in Archaic Greece⁵², but is also proper to Vedantic philosophy. According to one of the oldest sources, a book discussed by Needham called *Ji Ni Zi*, this implies that human affairs should be treated according to the workings of the forces *Yin* and *Yang*, such as they manifest themselves everywhere and at every moment⁵³. These ideas have been developed in China into a practice called *Feng Shui*, which is translated generally, though a bit unlucky, as ‘geomancy’, but whose literal meaning is ‘wind-water’. It is defined by the Chinese themselves as “The art of adapting the residences of the living and the dead so as to cooperate and harmonize with the local currents of the cosmic breath⁵⁴”. Its actual execution requires the application of a set of practical rules based on architecture, astrology and surveillance reckoning the presence of *ch’i* and the elemental balance constituting the landscape at a given spot.

Now, do we have to believe in the system of Chinese astrology and in their elemental theories to be able to learn from their practice? I do not think we necessarily have to. These theories represent a way to describe the indescribable, to put it in a Wittgensteinian way, to express things that can only be *seen*, not *said*. But, if our former analysis holds true, then the structure, or ‘grammar’ of usage of both the method and its expression should *show* us something of reality⁵⁵. I think this ‘something’ can be lifted out of its conventional environment by comparison with sources proper to other cultural realms⁵⁶. The practice originating from a set of ideas belonging to this fundamental ‘grammar’ teaches us to reckon the influences that the precise circumstances at a certain place, on a certain moment exert upon us, and *vice versa*. To enhance our aesthetic capabilities for the concrete aspects of the dynamical harmony instantiated in the real, as it were. We keep in mind that the correct translation of the word *aesthesis* is *to be aware*, not merely to appreciate beauty. This approach is open to generalization: a subject like Ecology could, when accepting this position, be treated with far more subtlety than is now generally the case. The fabric of reality is contingent, but not arbitrary⁵⁷: we can do a lot, but not whatever we want. And although the conception of harmony should not be misunderstood as a moral category, a relation to beauty as a deliberate choice in resonance with reality seems natural enough. This is supported not only by numerous testimonies on the glory of the classic Chinese landscape⁵⁸, but also by the life and work of Ludwig Wittgenstein, who would not only have been judged by Chinese standards to be practicing *Feng Shui* in his daily life or in the design of his sister’s house in Vienna⁵⁹, but whose philosophy can be understood, I daresay, as a *Feng Shui* of words and sentences, as the art of seeing the real through its expression in language, and living according to it.

...AND BACK TO SCIENCE

In a concluding remark I want to return our attention to the exact sciences with which we started. We all exist in one world; therefore it cannot be that the results of the sciences should in the end be at variance with more immediate methods of reality-access. And I don't believe they are. I think there is a task for epistemology here. The task would be to re-interpret the main results of science—both formally and experimentally—by taking their ontological aspect explicitly into account. To calculate back what is found by reckoning the influence of an ontological refraction-index, as it were. The medium responsible for this refraction are the different forms of logical reasoning, partaking in an ontological set-up different from that of given reality.

An example will illustrate what I mean. If I would say to an experimental physicist explaining me what he found: "An experimental observation involves a reconstruction of reality, it is a manipulation. You should reckon this while interpreting your results."

He could answer: "So elementary particles do not exist?"

My reply would be: "That I don't say. I mean that, because you find elementary particles in such and such an experimental set-up, you cannot conclude that nature is build up by them. A correct interpretation of your experiment would be: 'I found elementary particles in an experimental set-up. Nature is such that, when manipulated according to this procedure, elementary particles appear' ⁶⁰."

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NOTES

- 1 The ideas developed in this article were presented for the first time at the 7th ISSEI-Conference, *Approaching a New Millenium. Lessons from the Past, Prospects for the Future*, Bergen, Norway, Workshop IV, 14-18 August 2000.
- 2 L. Wittgenstein, *Philosophical Occasions 1912-1951*, J. Klagge and A. Nordmann (eds.), Hackett Publishing Company, Indianapolis & Cambridge, 1993, p. 192.
- 3 Fundamenten van de exacte wetenschappen (Foundations of the Exact Sciences), Department of Mathematics, and Centrum Leo Apostel, Vrije Universiteit Brussel (VUB).
- 4 The most recent example of the first point of view is the book by F. Fukuyama, *The End of History and the Last Man*, Penguin Books, London, 1992. The second one has been eloquently expressed by G. Debord: "Le mouvement réel qui supprime les conditions existantes gouverne la société à partir de la victoire de la bourgeoisie dans l'économie, et visiblement depuis la traduction politique de cette victoire. Le développement des forces productives a fait éclater les anciens rapports de production, et tout ordre statique tombe en poussière. Tout ce qui était absolu devient historique." *La Société du spectacle*, Gallimard, Paris, 1992, § 73.
- 5 On the level of society, see J.- F. Lyotard, *La condition postmoderne. Rapport sur le savoir*, Les Editions de Minuit, Paris, 1979. For individual self-consciousness: R. Barglow, *The Crisis of the Self in the Age of Information*, Routledge, London and New York, 1994.
- 6 B. Appleyard, *Understanding the Present. Science and the Soul of Modern Man*, Doubleday, NY, etc., 1994.
- 7 Verelst, K., "On the ontology realized in technological world-reconstruction", *Dialogue and Universalism*, Vol. XI, 3/2001.
- 8 M. Heidegger, *Basic Questions of Philosophy. Selected "Problems" of "Logic"*, Indiana University Press, Bloomington & Indianapolis, 1994, p. 49.
- 9 I owe the realization of the importance of the "preparation procedure" involved in experimental observation to the work of and discussions with professor C. Piron, Université de Genève. The inextricable link between "logical predicability" and "experimental accessibility" of the properties of a system under observation became clear to me in the same way. This does not imply, of course, that Prof. Piron would agree with the views here expressed. For the "Geneva School" approach to QM, see C. Piron, *Mechanique quantique. Bases et applications*, Presses polytechniques et universitaires romandes, Lausanne, 1990-1998.
- 10 D.J. Moore, "On state spaces and property lattices", *Stud. Hist. Phil. Mod. Phys.*, Vol. 30, N°1, pp. 61-83, 1999.
- 11 In classical mechanics, the evolution of a system is expressed by the equations of motion, while its state is described in phase space. The "orthodox" formalism provides for the description of states in *Hilbert space*. The evolution of a system from state to state is described by the deterministic Schrödinger-equation. However, another mechanism of change also occurs, the probabilistic "collapse of the wave-function" as the result of an effectuated measurement, which *cannot* be described by the Schrödinger-equation. This situation is what in quantum mechanics is known as the "Measurement Problem". The dynamical behavior of physical systems in QM thus remains open to numerous conflicting interpretations. Recently, interesting results

- regarding this problem, both conceptually and formally, have been attained within the framework of the so-called "operational approach" to QM, elaborated in the context of the Geneva School; see B. Coecke, D.J. Moore and A. Wilce, (Eds.), *Current Research in Operational Quantum Logic: Algebras, Categories and Languages*, Fundamental Theories of Physics 111, Kluwer Academic Publishers, 2000.
- 12 M. Heidegger, *o.c.*, p. 48.
- 13 Undoubtedly for Aristotle. On the relational logic implicit in Platonic Participation Theory, see H. N. Castaneda, "Plato's theory of relations" in *Exact Philosophy*, Mario Bunge ed., D. Reidel Publishing Company, Dordrecht, 1973.
- 14 A theme also at the heart of Indian philosophy. The Vedantic formula is *satyasya satyam*, "the reality of the real", Bhrad-aranyaka Upanishad II, I. Cited and commented in S. Radhakrishnan, *The principal Upanishads*, Harper-Collins Publishers India, New Delhi, 1953-1994, p. 55.
- 15 Heraclitus: "riverfragment" DK 49a: ποταμοιφ τοιφ αυτοιφ εμβαινομεν τε και ουκ εμβαινομεν, ειμεντε και ουκ ειμεν : "In the same rivers we step and we don't, we are and we aren't." Diels, H., Kranz, W., *Fragmente der Vorsokratiker*, erster Band, p. 161, Weidmann, Dublin, Zürich, 1971. Parmenides: το εον εστϷ, "The Being is," cited and commented by K. Riezler, *Parmenides, Text, übersetzung, Einführung und Interpretation*, Vittorio Klostermann, Frankfurt a. M., 1970, p. 45.
- 16 Compare on their predecessors Plato, in the *Theaethetus*, the *Parmenides*, and *The Sophist*, with Aristotle in the *Metaphysics*, Book A, III-VI.
- 17 G. Günther, *Cybernetic Ontology and Transjunctional Operations*. BCL publication 68. Photomechanically reproduced from *Self-organizing Systems*, 1962, Yovits, Jacobi and Goldstein Eds., Washington D.C., Spartan Books, 1962, pp. 313-392.
- 18 Elaborated in more detail in, K. Verelst and B. Coecke, "Early Greek thought and new perspectives for the interpretation of quantum mechanics: Preliminaries for an ontological approach", in: C. Cornelis, S. Smets and J. -P. Van Bendegem, *Metadebates. The Blue Book of Einstein Meets Magritte*, Kluwer Academic Publishers, Dordrecht, etc., 1999, p. 163 sq.
- 19 "Two great warring traditions regarding consistency originated in the days of the Presocratics at the very dawn of philosophy. The one, going back to Heraclitus, insists that the world *is not* a consistent system and that, accordingly, coherent knowledge of it cannot be attained by man. (...) The second tradition, going back to Parmenides, holds that the world *is* a consistent system and that knowledge of it must correspondingly be coherent as well, so that all contradictions must be eschewed." N. Rescher, and R. Brandon, *The Logic of Inconsistency. A Study in Non-Standard Possible-World Semantics and Ontology*, Basil Blackwell, Oxford, 1980, Introduction.
- 20 For a contribution to the debate on Newton's historical sources starting from this perspective, see: De Smet, R., Verelst, K., "Newton's *Scholium Generale*. The Platonic and Stoic legacy: Philo, Justus Lipsius and the Cambridge Platonists," *History of Science*, xxxix (2001).
- 21 K. Verelst, "Ontology..." (see ftm. 7).
- 22 K. Verelst, "Some remarks on the relation between the microcosmical and macrocosmical instantiations of the mythological World-Axis," in: Moreva, L., *International Readings on Theory, History and Philosophy of Culture*, vol. 7:

Symbols, Images and Stereotypes of Contemporary Culture, Eidos/Unesco, St. Petersburg, 2000, pp. 326-337.

- 23 In his *De Docta Ignorantia*, capitula IV, XIII-XV. For Cusanus's works, see the *Editio princeps* established by E. Hoffmann and R. Klibansky (eds.), In Aedibus Felicis Meiner, Lipsiae, 1932.
- 24 I explicitly hold that the ontology instantiated by these principles informs *all* logical systems, also contemporary 'merely formal' ones, since it resides in their procedures, not in the assertions regarding them. And as Epstein commented: "Every logician in the end divides propositions into those which are acceptable and those which are not", R. L. Epstein, *The Semantic Foundations of Logic*, Vol. I, Kluwer academic publishers, Dordrecht, 1990, introduction.
- 25 "The world is all that is the case". L. Wittgenstein, *Tractatus Logico-Philosophicus*, Translation by D. F. Pears and B. F. McGuinness and with an introduction by Bertrand Russell, F. R. S., London, 1961-1963, §1.
- 26 "The world is determined by the facts, and by their being all the facts." *Tractatus*, §1; "A proposition is a picture of reality." § 4.01; "A proposition must restrict to two alternatives: yes or no." § 4.023.
- 27 "Conversation flows on, the application and interpretation of words, and only in its course (flow, K.V.) do words have their meaning." L. Wittgenstein, *Zettel*, ed. G.E.M. Anscombe and G.H. von Wright, Basil Blackwell, Oxford, 1967, 135.
- 28 "Only in the stream of thought and life do words have meaning." *Zettel*, 173.
- 29 L. Wittgenstein, *Philosophical Occasions*, note lectures on "Private experience" and "Sense Data", p. 255.
- 30 "Propositions show the logical form of reality." *Tractatus*, § 4.121; "What can be shown, cannot be said." § 4.1212.
- 31 B. McGuinness, *Wittgenstein. A life. I. Young Ludwig*, Penguin Books, 1990, p.199.
- 32 "Knowledge is not *translated* when it is expressed. The words are not a translation of something else that was there before they were." *Zettel*, 191.
- 33 "We must patiently examine how this sentence is supposed to be applied, what things look like round about it. Then its sense will come to light." *Zettel*, 272.
- 34 "Yes, my work has broadened out from the foundations of logic to the essence of the world." Diary-entry, 2th august 1916, cited in McGuinness, p. 245.
- 35 "unconcealedness", the "truth" of grasping the essence, according to Heidegger, *o.c.*, p. 86.
- 36 "The word 'I' does not designate a person", Notes for PE & SD, p. 228.
- 37 See also *Tractatus* 5.6-5.634.
- 38 Notes for PE & SD, pp. 255, 257.
- 39 Notes for PE & SD, pp. 259, 255.
- 40 "Here it can be seen that solipsism, when its implications are followed out strictly, coincides with pure realism." *Tractatus* § 5.64.
- 41 "When someone says: 'I have a body', then one could ask him: 'Who presently speaks through this mouth?'" L. Wittgenstein, *Werkausgabe Band 8*, Surhrkamp, Frankfurt am Main, 1992: *Über Gewissheit*, 244, p. 168; compare *Tractatus*, 5.631, and part V of the analytical table of contents to the *Philosophical Remarks*, Basil Blackwell, Oxford, 1975, p. 14-15.
- 42 "It thinks.' Is this proposition true and 'I think' false?" Notes for PE & SD, p. 226.

- 43 "The world and life are one." *Tractatus*, 5.621.
- 44 Relevant in this respect is §140 in the *Philosophical Remarks*: "Time contains the possibility of all the future *now*. The space of human movement is infinite in the same way as time," see p. 27.
- 45 Which is what Russell actually tried with his 'sense-data-theory', on which Wittgenstein vehemently criticized. See R. Monk, *Bertrand Russell. The Spirit of Solitude*, Vintage, London, 1997, pp. 547-552; p. 584.
- 46 DK2 and 50: του λ γου δ' ε ντοφ ξυνου ζωουσιν οι πολλοι φριδιαν εχοντεφ φρ νησιν. ουκ εμου αλλα του λ γου ακουσανταω ομολογειω σοφ ν εστιν εν παντα ειωα. The translation is the one proposed by Kirk et al., in: G. S. Kirk, J. E. Raven and M. Schofield, *The Presocratic Philosophers*, Cambridge University Press, Cambridge etc., 1957-1983, p. 187.
- 47 DK 93: οαναφ ου το μαντει ν εστι το εν Δελφοιφ ουτε λεγει ουτε κρυπτει αλλα σημαινει. Kirk et al., *o.c.*, p. 209. I was quite a bit surprised to see that McGuinness explicitly makes reference to this in his Wittgenstein biography! McGuinness, *o.c.*, p. 303.
- 48 Bruno Snell cites Von Fritz with approval and generalizes his observations on Homeric *knowing* as an act of *seeing*: "K. V. Fritz sagt zusammenfassend in seiner Untersuchung über den homerischen Gebrauch von Noos und noein: 'Ein gewisser Grad von schlußfolgerndem Denken scheint also in den Vorgang (sc. des *noein*) einzugehen (wenn etwa jemand auf Grund verschiedener beobachtungen "merkt" oder "durchschaut", daß ein anscheinend freundliches Verhalten schlechte Absichten verbirgt). An keiner einzigen Stelle jedoch wird dieser schlußfolgernde Prozeß selbst angedeutet, vielmehr kommt *die Erkenntnis der Wahrheit immer als eine plötzliche Intuition. Die Wahrheit wird "gesehen"*.' Das trifft den wesentlichen Punkt, der im gesamten Bereich des Geistigen und Seelischen gilt." Our italics. B. Snell, *Die Entdeckung des Geistes, Studien zur Entstehung des europäischen Denkens bei den Griechen*, Vandenhoeck & Ruprecht, Göttingen, 8th ed., 1975/2000, p. 23.
- 49 The link between a Vedantic formulation, *the coincidence of Brahman and Atman*, and the Heraclitean dictum is made by Radhakrishnan, *o.c.*, p. 77, footnote 3.
- 50 Man-ho Kwol and J. O'Brien, *The Elements of Feng Shui*, Element Books, 1991-1997, p. 11.
- 51 E. J. Eitel, *Feng Shui. The Science of Sacred Landscape in Old China*, Synergetic Press, 1873/1993, p. 6.
- 52 R. B. Onians in *The Origins of European Thought*, not only offers us a brilliant discussion of all its aspects in ancient Greek world-awareness, but also establishes the link to the Upanishads. His book is published at the Cambridge University Press, Cambridge, 1951/1994. See especially pp. 73-76.
- 53 I used the French translation of Needham's book: J. Needham, *La science chinoise et l'Occident*, Editions du Seuil, Paris, 1973/1991, p. 230.
- 54 Eitel, *o.c.*, introduction.
- 55 "When I speak of the inner nature of the practice, I mean all the circumstances under which it is carried out (...) what one might call the spirit of the festival (...)", L. Wittgenstein, *Philosophical Occasions. Remarks on Frazer's Golden Bough*, p. 145.
- 56 I attempted to demonstrate the fruitfulness of this approach in my article on the *Axis Mundi* or World Tree. See footnote 20.
- 57 I owe this precious formula to Frank Van Dessel (VUB), in an oral communication.

58 Eitel, *o.c.*, foreword.

59 I was inspired by A. Janik and S. Toulmin's study on *Wittgenstein's Vienna* (Simon & Schuster, N.Y., 1973) when formulating this contention, but a blatant confirmation stems from Wittgenstein himself: "The house I build for Grell is the product of a decidedly sensitive ear and *good* manners, and expression of a great *understanding* (of a culture, etc.)", cited in a recent book by D. Edmonds and J. Eidinow, *Wittgenstein's Poker*, Faber and Faber, London, 2001, p. 158. They discuss more examples of the same basic attitude from a perspective different of the one developed here, but relevant nevertheless.

60 This approach remains commensurable to the concept of 'element of reality' as introduced by Einstein, and given strong theoretical foundations by Piron and his successors. C. Piron, "Le réalisme en physique quantique: une approche selon Aristote", in *The concept of physical reality. Proceedings of a conference organized by the Interdisciplinary Research Group*, University of Athens, I. Zacharopoulos, Athens, 1983, p. 170. See also footnotes 7, 8.