Abstract

The topic of this essay concerns the interest that the conception of nature in Schelling has aroused in the philosophical culture in the nineteenth and twentieth centuries. I propose to examine the retrieval of the philosophy of the nature of Schelling from the history of philosophy and history of science standpoints. Therefore, my paper will be divided into three parts. In particular, I will start by examining the state of the art on the reevaluation of Schelling in the context of the contemporary philosophy of science; then I will pass by analyzing the relationship between Schelling’s thought and the quantum physics according to Slavoj Žižek and Karen Barad approach; finally, I will conclude by going back to the Kantian source of this branch of study.

Schelling’s Resurgence and Criticisms

It is a few decades since we are witnessing a curious phenomenon within the theoretical philosophy. In fact, many complaints have been raised that in the past fifty years the contemporary philosophy has ignored the problem of nature, with the result that the nature has reduced its importance. Nature would be left out or minimized by the continental and analytical philosophies.¹ This criticism can be noticed within Iain Hamilton Grant’s reflection, who put as epigraph on the back cover of his *Philosophies of Nature after Schelling* the following passage from Schelling’s *Philosophical Investigations into Essence of Human Freedom*:

The entire new European philosophy since its beginning (with Descartes) has the common defect that nature is not available for it and that lacks as living ground. (Schelling 2006: 26; quoted also in Grant 2004: 128)

¹ Woodard 2015: 19.
This past criticism made by Schelling seems applicable also to the present. Now, as then. We will see afterwards whether this assumption is true. Thanks to Grant and other scholars of Schelling, there is a veritable resurrection or resurgence of the Schelling’s philosophy of nature, which can indeed be intended as a means to pacify these philosophies with a concern for nature.

We must recognize that, until a few decades ago, Schelling’s Naturphilosophie did not enjoy a good reputation at least in philosophy of science. According to Andrew Bowie, by the 1840s the natural sciences imbued with materialism and positivism killed off Naturphilosophie «as part of the overt praxis of modern science».

Many natural scientists dismissed Schelling’s speculative physics since they perceived it to be «a lack of respect for the empirical facts». Therefore, Schelling’s theory of nature had no chance to survive, since it was increasingly viewed as having obstructed or retarded scientific inquiry.

Actually, the story of a bad relationship between Schelling and science has more ancient and deep roots. As a matter of fact, already even in the first half of the nineteenth century Justus von Liebig, father of the organic chemistry, conceived Naturphilosophy as «the insane sister» of true philosophy. He compared its extravagances with the «pestilence and the Black Death of the century».

Liebig got rid of Schelling with a trenchant opinion: «Schelling possessed no thorough knowledge in the province of the natural sciences, and the dressing up of natural phenomena with analogies and images which was called exposition, did not suit me». According to this line of thinking, in 1844, the botanist Matthias Jakob Schleiden, co-inspirator along with Theodor Schwann of the future cell theory formulated by Rudolf Virchow, had strongly criticized Schelling’s conception of nature as a vivid example of philosophical aberration:

Schelling und die Naturwissenschaft wissen nämlich gegenseitig gar nichts von einander und können sich deshalb auch nicht streiten [...] Man glaube ja nicht, dass ich hier eine Arbeit eines chemischen Anfängers excerpire, worin ganz einfach chemische Unwissenheit als absoluter Unsinn sich darstellt. Hier ist von Erfahrungswissenschaft nicht die Rede, es ist Philosophie, die uns die Thatsache a priori construirt (Schleiden 1844: 30 and 33)

These attacks were even more vehement by the physicists of the time. Hermann von Helmholtz, co-founder with Emil du Bois-Reymond and Carl Ludwig of the so-called “physicalist school in physiology”, rejected all metaphysical prin-

3 Segall 2014: 41.
5 Liebig 1891: 262; see also Brock 1997: 27.
ciples in the scientific explanation. His empiricist viewpoint in the physiology of the sense perception affected his epistemological doctrine, contributing to establish a program, according to which in nature all actions are fundamentally governed by attractive and repulsive forces. Consequently, he observed that Schelling and Hegel «began the quarrel» with the natural sciences. Deploring «the philosophical vaporizing and consequent hysteria of the nature-philosophical systems of Hegel and Schelling», however, he was convinced that this “idealistic system of philosophy” had «very little influence on the theory of sensory perception». In particular, opposing the theories of perception of Hegel, Fichte and Schelling, Helmholtz underlined that they neglected «the influence that the thing causing the effect has on the effect», and in Schelling’s “philosophy of identity” he saw an attempt to prove «the identity of our sensations with the actual properties of the perceived bodies».

Even the poet Heinrich Heine lamented that, in the search of the Absolute, Schelling left «the philosophical route», seeking «by a kind of mystical intuition to arrive at the contemplation of the absolute itself». He compared Schelling’s “silly admirers” to dancing dervishes who «continue spinning round in a circle until objective and subjective worlds become lost to them».

What a particular destiny for Schelling, who had exhibited a strong familiarity, firstly with the theory of magnetism, secondly with the Brownian conception of irritability and, more generally, with the ideas of new physics and chemistry, but also of physiology, biology and medicine, convinced that «every dynamic process begins only with the conflict of the originally heterogeneous […] Throughout the whole of nature homogeneity is only an expression of a state of indifference» and the dynamic process is established that the uniformity could only result from the heterogeneity. Striving to place knowledge in a systematic project able to give a deeper meaning to the “particular”, Schelling often proceeded by similarities and generalizations. The result was a strange mix of «scientific theories, empirical excursions and hyper-physical observations». And probably

6 Olson 2008; Stone 2015: 331.
7 Friedman 2013: 81-2.
8 Cahan 2018: 158.
9 Königsberger 1906: 159; Hatfield 2018: 16.
10 Helmholtz 1867: 456.
11 Ibidem.
13 Heine 1959: 152; see also Wirth 2003: 106.
14 Schelling 2004: 186.
just this abovementioned mix represented the Achilles heel of Schelling, whose explorations and contamination with science had seemed indigestible already to “veritable” scientists of his time.

On the other hand, it seems certain that Schelling, however, has exercised a striking influence on the scientists of the mid- and late nineteenth century. It is supposed that, through the intermediary of Alexander von Humboldt, Schelling's *Naturphilosophie* had influence even on Darwin.16 His view of harmony with nature exercised some appeal on Lorenz Oken (the idea of the eternal transformation of God in the nature) and on the early pantheism of Johann Joseph von Görres.17 Following Schelling, Hans Christian Ørsted embraced the principle of the unity of nature:

Our physics, therefore, will no longer be a collection of fragments on motion, on heat, on air, on light, on electricity, on magnetism, and who knows what else, but with one system we shall embrace the entire world. (Ørsted 1803, transl. 1998: 164)

and his enthusiasm was shared with his friend Johann Wilhelm Ritter. Both these physicists were convinced that electricity, magnetism and other phenomena should be governed by a single law of nature, echoing Schelling’s idea that:

all phenomena are correlated in one absolute and necessary law, from which they can all be deduced. (Schelling 2004: 197)

Further, it should be recognized that Schelling reported some interest from a few English thinkers in the late nineteenth century. These last were inspired by Samuel T. Coleridge who acknowledged that:

In Schelling’s “Natur-philosophy” and the “System des Transcendentalen Idealismus” I first found a genial coincidence with much that I had toiled out for myself, and a power assistance in what I had yet to do. (Coleridge 1817: I, 102)

His journey in Germany (1798-99) was of fundamental importance for Coleridge’s philosophical development. He studied Kant, Fichte and Schelling mainly at the University of Göttingen but, according to some critics, he never met these German philosophers.18 Once he was back in England, he increased his acquaintance with Schelling, but probably misunderstanding the very Schellingian philosophy of nature, and resulting in a position of pure dogmatism.19

16 Humboldt 1804: 36; Richards 2002.
17 Copleston 1963: 145.
Although it can not say that Schelling had large following among the professional English philosophers, however, through Coleridge, his influence was felt by some English scientists. For example, the chemist Humphry Davy discussed with Coleridge some themes from Naturphilosophie, and in particular he was convinced of the theory of unity and convertibility of forces. Developing the physical foundations provided by Michael Faraday, James Clerk Maxwell perhaps drew from Schelling the idea of field theory and the use of vortices, lines of force etc. translating these concepts into mathematical form.

Other elements consent us to trace his impact indirectly on Alfred N. Whitehead, who reproduced a quotation — extracted from the Russian philosopher Nicolas O. Lossky — in which Schelling said: «In the Philosophy of Nature, I considered the subject-object called nature in its activity of self-constructing», without feeling «the necessity of opposing the nature as constructed (i.e. as experience) to real nature», and on Maurice Merleau-Ponty, who shared the vision of nature as productive. Secondly, he had a powerful influence on Charles S. Peirce, who declared: «... my views were probably influenced by Schelling, — by all stages of Schelling, but especially by the Philosophy of Nature. I consider Schelling as enormous...». In a letter to John Heath dated 4 August 1842, R. Waldo Emerson confessed to have «more curiosity respect of Schelling’s opinions than to those of any living psychologist» and commented that «There is grandeur in the attempt to unite natural and moral philosophy which make him a sort of hero».

A time ago the philosophers of science worked under the assumption that Naturphilosophie was an obstacle to hard science because of its «cavalier attitude» to empirical research and its tendency to work merely from analogy. Now, instead, serious attention is paid to the role covered by all aspects of language within the scientific discovery: consequently, any rigid distinction between the ‘empirical’ and the ‘speculative’ is breaking down. In this context, a key factor is played by metaphor, as suggested by thinkers such as Mary Hesse, Thomas Kuhn, Michel Foucault, Nelson Goodman, Johns Searle, Stanley Cavell, Donald Davidson and Richard Rorty.

21 Williams 1965: 43.
22 Whitehead 1920: 47-8; Braeckman 1985; Gare 2002: 36; Schlitt 2016: 262.
23 Wirth, Burke 2013
24 Peirce 1895; Matthews 2011; Esposito 1977.
26 Sacks 1979.
role in many subsequent theories such as Freudian unconscious theory, cosmological speculations which prelude to Big Bang, Lacanian psychoanalysis etc.\(^\text{27}\)

Finally, a comparison can be made between Schelling and Thomas Nagel, for which the mind-body problem is not just a local problem, because it involves our understanding of the whole cosmos and even its history. And Schelling himself observed:

If there were not a point where the mental and the physical are completely intertwined, matter would not be, though it is undeniably the case, capable of raising itself into the same again. (Schelling 1993: 32)

Nagel regards Schelling and Hegel as “absolute” idealists – he considers himself as «an objective idealist in the tradition of Plato and perhaps also of certain post-Kantians, such as Schelling and Hegel»;\(^\text{28}\) indeed, he believes that something of this absolute, objective idealism must be in every scientific research enterprise, and that it is not enough to be “pure empiricists”. However, according to some critics, he does not view Schelling as a Naturphilosoph, seemingly not notice that for Schelling nature emerges from a unprethinkable domain.

Today post-empiricist philosophers stressed the «dangers of a scientist approach to nature», and the Schelling’s naturalism is revalued. According the modern European science, it seems that nature does not exist, and nature has been kept out of the metaphysics. But from a few decades, things are changing. One wonders whether scientific knowledge truly represents an independent reality. For example, Reinhardt Löw, who, moreover, dedicated studies on the construction and decomposability of matter in relation to the “dynamic atomism” of Schelling observed that materialistic regard on nature led to scientific nihilism, denying any scientific validity to philosophical speculation.\(^\text{29}\) In contraposition to the “dominance” of mechanistic physics and reductionist biology, alternative views are proposed and a new wave of secondary literature refuses any fragmentary view of Schelling, arguing that his work was inspired and unified by a single, unitary principle.\(^\text{30}\) In Germany and in the United Kingdom particularly attention has been devoted to Schelling’s early writings on Naturphilosophie: «in the climate of post-empiricist philosophy of science, historians of science have no trouble in suggesting in line with Marx’s positive assessment of the young Schelling […] that the Schelling of the Naturphilosophie is a significant figure, whose speculative formulations of a theory of nature’s ‘productivity’ and its inherent

\(^{27}\) Bowie 1993: 5-8.

\(^{28}\) Nagel 2012: 17.

\(^{29}\) Löw 1981 and 1990: 68.

\(^{30}\) Woodard 2015: 9.
polarity were important». Today post-empiricist philosophers and historians of science appreciate Schelling’s naturalism more than their empiricist forerunners. His philosophy is viewed as a continuous philosophy of nature. Schelling has the merit of thinking nature in non-quantitative terms, surpassing both the Kantian teleology and the mechanistic materialism, thanks to a positive philosophy which is a higher form of empiricism, implying the naturalization of the transcendental, the productivity of the nature and the idea of a continuity between the sensory experience, the production of imagination and the conception of the subject as producer. In this vision, the spirit materializes in nature and it reflects in its agency, so that freedom is conceived in a non-mechanistic type of physical causality. These characteristics are appealing to those theoretical philosophers, who have recently placed emphasis on a not-reductionist science of organism, on a philosophy not opposed to the experience, sustaining the idea of an independent nature, where the relationship “inside/outside” has replaced the relations “before/after” and “cause/ effect”. The same Potenzen are viewed as created in order to avoid the limitations of “brute mechanical philosophy” promoting the unity of subject/object, which can never separated ontologically.

A certain number of scholars, including Andrew Bowie, Arren Gare, Robert Richards, Joseph Esposito, Bruce Matthews, Jason Wirth, Ray Brassier, Graham Harman, Frederick Beiser and Iain Hamilton Grant, recognized that Schelling “painstakingly” studied and contributed to natural sciences of his time. In the history of science and technology Leslie Pearce Williams (in The Origins of the Field Theory), Gilles Châtelet and Joseph Esposito contributed to revalue Schelling as precursor respectively of the field theory and of the general system theory. In particular, the classic physical field theory discusses gravity and electromagnetism, forces which play an important role in Schelling’s philosophy of nature. His ideas, according to Thomas Kuhn, got further developments in the discovery of the ultraviolet-rays, in the formulation of the principle of the conservation of energy, and the discovery of the electro-magnetism. Finally, the aether hypothesis shared with Kant’s Opus postumum was accepted as valid until Einstein overthrew the ancient concept and «stripped of it its most important characteristic: a medium being in absolute rest». But in the twentieth century the conception of the ‘quantum vacuum’ recalls in some ways the ancient representation of ether, since the quantic vacuum fills all space and presents measurable properties such as the pressure and the energy density.

31 Bowie 1993: 3-4.
32 Cusinato 2010.
33 Woodard 2015: 124 and 172.
34 Kuhn 1977: 97-99; see also Caneva 1997; Cunningham, Jardine 1990.
35 Einstein 1920; Granek 2001: 64.
A further line of research joints Schelling to the Popper’s later naturalism, especially with reference to the Kant’s revision, which in many ways mirrors the Schelling’s attempt to revise Kant «by reconciling epistemology with ontology». From this point of view both Schelling and Popper appear as “process metaphysicians”, whose project is founded upon the concepts of progress, emergence, process, reality and creativity. Arran Gare argued that Schelling should not to be interpreted as an Idealist and that both Schelling and Popper developed philosophies which propose to overcome the subjective idealism.

From another point of view, the attempt to ground the emergence of nature in an unstable abyss (Abgrund) of dynamic forces and his effort to conceive the nature more in terms of ‘becoming’ than of ‘being’ make Schelling a precursor of the Prigogine’s theory of non-equilibrium processes, according to which the science conceives our creativity «as part of a fundamental trend present at all levels in the nature». For Prigogine the “end of certainty” coincides with the crisis of the Cartesian-Newtonian paradigm, whereas in Schelling’s account of the universe there is not any separation between the observer and the nature observed: there is no coherent metaphysical justification for the slit between subject and object, which constitute a polar unity.

Several contemporary philosophers appreciate not only the protean character of Schelling’s philosophy, but also his role of pre-post-modern thinker. This “resurrected” Schelling has become an inspirational model of part of the contemporary philosophy, represented by a wide range of philosophical positions, comprehensive of various forms of materialism/realism such as metaphysical Realism, internal Realism, scientific Realism, New Materialism and New Realism, OOO (Object Oriented Ontology)/OOP (Object Oriented Philosophy) and other “micro-endeavours” (or recent factions) emerged out of the non-cohesion of Speculative Realism. For Grant, Schelling’s Naturphilosophie is a precursor of the new natural sciences of “organization and complexity”. Grant complains the abandonment of active nature, characterizing modern philosophy, the forgetting of Nature, defined “aphysia”. In particular, Grant urges not to limit Schelling’s philosophical speculations on nature over theoretical resource or a device convenient for the positivistic approach. On the contrary, Schelling’s idealism is the basis of every true materialism and realism, that shall not be naïve: a Speculative Realism «in the sense Schelling gave to speculative physics».

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36 Naraniecki 2014.
37 Gare 2011: 28.
39 Morelle 2012: 264.
40 Grant 2006: 11.
41 Morelle 2012: 265.
course, these positions are characterized by a strong anti-correlationalist stance, by an antipathy for social constructivism and for the “linguistic turn”, as well as by the attempt to eliminate «representation especially in its more constructive form».\textsuperscript{42} Philosophies that sustain the idea of a “true” representation of the objects are criticized as founded on indefensible (pre-Kantian) premises, according to which many questions posed by the science could appear to be more serious than the problems solved by the science. In this anti-foundationalist perspective of science Schelling’s thought seems to offer “conceptual tools” to escape dangers of the scientist approach in the philosophy of the nature.

In conclusion, it would be «a mistake» to write off \textit{Naturphilosophie} because of its empirical failings. The attempts of \textit{Naturphilosophie} to give empirical results do not constitute its primary aim:\textsuperscript{43} Schelling’s \textit{Naturphilosophie} is primarily an attempt to «re-imagine the metaphysical foundations of the natural science».	extsuperscript{44} In this context, the contribution of the \textit{Naturphilosophie} to the advancement of sciences in the late eighteenth and early nineteenth centuries is a kind of hermeneutical approach towards the natural sciences. The idea that nature is capable of organize itself stems from a “hermeneutics of nature” an approach which has become influential over the post-empiricist philosophy and history of science.\textsuperscript{45} It is a program neither scientific nor theological, since it aims at highlighting the \textit{immanent} meaning within nature, and it is not explained by the physics or by other natural sciences.\textsuperscript{46} It consists of three leitmotifs: the privilege of life as self-organizing principle, not reducible to a deterministic vision; the idea of the finitude of the nature correlated to the concept of its impotence; finally, the question of the opposites – the opposing poles – within the “interrelated whole”: the polar unity between subject and object denoting the inherent difference, which is grounded in a principle of the absolute identity.

\textbf{Schelling and the Quantum Physics}

If today, as Gianni Vattimo claims (2016) there are plenty of suggestions that link “weak” philosophy to quantum physics (since this last conceives the world as not made by objects, but made by events and relationships) it shall be expected that sooner or later attempts would be carried out to combine Schelling’s philosophy of nature and quantum physics. Echoing a thesis of Roland Omnès (1999), Grant sought to highlight how the speculative physics

\textsuperscript{42} Woodard 2016.
\textsuperscript{43} Bowie 1993: 36.
\textsuperscript{44} Segall 2014: 442-443.
\textsuperscript{45} Gare 2011: 29.
\textsuperscript{46} Huneman 2006.
as constructed by Schelling can constitute a philosophical *impetus* to pursue
the physics of the present.47

Since it consists of the views developed by a number of scientists and philos-
ophers during the second quarter of the twentieth century, there is no unique
definitive statement of Copenhagen interpretation of quantum mechanics. 
Generally, according to this interpretation, physical systems do not have definite
properties prior to being measured, and quantum mechanics can only predict
the probabilities that measurements will produce certain results. The act of
measurement affects the system, causing the set of probabilities to reduce to
only one of the possible values immediately after the measurement. This feature
is known as wavefunction collapse. In accordance with generally accepted rules,
the principle applies that during an observation, the system must interact with
a laboratory device. When that device makes a measurement, the wave function
of the systems is said to collapse, or irreversibly reduce to an *eigenstate* of the
observable that is registered.

Nevertheless, it is known that Copenhagen interpretation causes many diffi-
culties to realism. According to the principle of complementarity no description
can simultaneously illustrates all properties of a quantum system. Physical
systems do not have definite properties before being measured, and the act
of measurement affects the system: during an observation, the system must
interact with a laboratory device. When the device makes a measurement, the
wave function of the system is said to collapse, or it is irreversibly reduced to
an *eigenstate* of the observable that is registered. For this reason, it would not
make sense to speak about a state objectively owned by the system before the
measurement, and the realists have difficulty in accepting both the impossibility
of the measure and the indefinability of the quantum state.

A relation between Copenhagen interpretation and Schelling’s philosophy
of nature seems to be an obvious coupling, since Schelling took as a crucial
task the overcoming of the separation between mind and nature. For Schelling,
the subject affects the object. He refused to see the thinking subject as simply
opposed to nature as a world of objects, because the subject is itself part of
nature. In the *First Outline*, Schelling recognized that nature must be thought
as «absolute totality», and «everything falls into its sphere», nothing outside
of it.48 In particular, there is Absolute identity between mind in us and nature
outside mind. «Nature should be Mind made visible, Mind the invisible Na-
ture». The organized character of mind and the organized character of nature
cannot be separated. The same *polar tension* between consciousness and nature
throws light upon the relationship between subject and object, between inside

47 Grant 2004: 128.
and outside and so on. The task of the philosophy of nature is to explain the ideal from the real.

What then is that secret bond which couples our mind to Nature, or that hidden organ through which Nature speaks to our mind or our mind to Nature? We grant you in advance all your explanations of how such a purposive Nature has come to be actual outside us. For to explain this purposiveness by the fact that a divine intelligence is its author is not to philosophize, but to propound pious opinions [...] For the existence of such a Nature outside me is still far from explaining the existence of such a Nature in me; for if you assume that a predetermined harmony occurs between the two, indeed that is just the object of our question [...]. (Schelling 1988: 41-42)

In opposition to Newtonian physics and empiria, the key-concepts of the Einleitung and the Ideen are Construiren and Schaffen, which enclose the purpose of the philosophy of nature, which is to grasp the object in its origin. For Schelling it was important to construe the objects of the experience as products of a generative process.\(^49\) Therefore, he embraced a speculative knowledge of nature, or a Speculative Physics, which transcended the defects of Le Sage’s atomism and of the Kantian dynamics, guilty of «lacking foundation».\(^50\) The antithesis between empiricism and science is precisely in this, that empiria considers its object in its being as something definite, realized, while the science of nature instead considers its object in its becoming and as something that has yet to be realized. Not being able to move from what is a product, science of nature must move from the Unconditioned, which is the first pursuit of a Speculative Physics. For this reason, it wondered whether the “object” is primarily one of the physical world. Schelling’s thought turns more to the metaphysics of nature than the empirical physics. In fact, empirical physics concerns the causes, the inner mechanism of things, whereas Speculative Physics turns to the surface of nature and «the objective outside in it». It aims at the final state out of reach for the nature. In this sense nature, as object, is a real philosophical object.

Anyway, for Schelling every experiment is a question «put to nature, to which it is compelled to give a reply»; it is a prophecy, a production of a phenomenon.\(^51\) An experiment is a self-construction of phenomena and it can never transcend the forces of nature. In the First Outline he discusses how the experiment “invades” nature and he is seen as making a «fairly Bohrian statement» because Bohr’s physics “entangled” agency and phenomena. Philosophize about nature means


\(^{50}\) Schelling 1988: 52.

\(^{51}\) Schelling 2004: 197.
to *create* nature: the *Naturphilosoph* is able to think as *nature* and philosophy is a natural history of our mind.\(^{52}\)

The approach of Schelling's philosophy of nature to quantum physics is a central issue of Slavoj Žižek's thought, whose writings on Schelling dated back from mid-1990s. Both in the third chapter of *The Indivisible Remainder* (1996) and in *Less Than Nothing* (2012) Žižek aims to link quantum physics to philosophy of Hegel and Schelling. Quantum theory represents «the science at its most 'subjective'», but it needs a philosophical “rethinking”, to avoid falling into the trap between Scylla and Charybdis of the naïve empiricism and the obscurantist idealism.

A source of inspiration for Žižek has been the desire, played by Schelling in *Freiheitschrift* (1809), to conciliate the opposites of the deterministic natural necessity and the post-Kantian conception of the spiritual irreducible autonomy of the self-determining subjectivity.\(^{53}\) Even in *The Indivisible Remainder* Schelling's thought was viewed as characterized by some “implacable and unsolvable” tensions (in particular between freedom and existence) penetrating without uncertainty «the obscure netherworld of the pre-symbolic drives».\(^{54}\) The primordial contraction of Freedom is condensed in a point of “material density” corresponding, in terms of quantum theory, to the breaking of the “original symmetry”.\(^{55}\)

In Copenhagen interpretation quantum theory claims that «cognition of an object creates it» or «mind creates reality».\(^{56}\) The measurement – through the collapse of the wave function – «makes the empirical reality as we know it appears».\(^{57}\) In the famous double-slit experiment, the electron's trajectory implies that the electron behaves as a particle or a wave. On one hand, this duality of wave and particle refers to the Althusserian distinction between the ‘real object’ and the ‘object of knowledge’, because the real objects of the quantum physics are the objects of the ordinary reality, whilst the quantum sphere is only an object of knowledge, a conceptual construct which aims to explain the behavior of the measuring apparatus which constitutes part of the reality. On the other hand, if a quantum event *leaves a trace* in the observational apparatus and the collapse occurs, it signifies that an event realizes itself only when the external surrounding takes note of it. This implies that our comprehension of the reality is already over determined by the symbolic structures already present in the

\(^{52}\) Schelling 1988: 30; Grant 2006: 158.

\(^{53}\) Johnston 2013: 111-12.

\(^{54}\) Žižek 1996: 7.

\(^{55}\) *Ibidem*: 38.

\(^{56}\) Žižek 2012: 923.

\(^{57}\) *Ibidem*: 907.
reality itself. The symbolic order preexists in a ‘wild’ form, in a proto-reality, which needs to stabilize itself in the ordinary reality. This gap can be found in Schelling’s distinction between Existence and Ground of the Existence.

Žižek makes a list of opposites connoting Schelling’s philosophy: Real/Ideal, Rational/Irrational etc. to reach the standpoint of the Absolute, emphasizing, however, that the true Schelling’s philosophical revolution is the idea that the proto-ontological Reality is not simply the nature, but the domain of the not yet constituted Reality. In fact, quantum theory allows to come out from the deadlock which occurs between naturalized man and spiritualized nature. Finally, the enigma of the double slit experiment gives rise to different approaches. In the spiritualistic one, mind creates reality; in the «over-hasty naturalization» no observer is requested for the collapse of the wave function, because ‘observing’ consists in a mere registration by the environment: all the reality is affected by the environment with which it interacts. Latter interpretation raises the question of what is meant by “objective reality” if this reality can look independently of me. Surely these paradoxes demonstrate that the proto-reality of particles and waves is not reducible to our standard of ‘external reality’. Nevertheless, Žižek discerns among the philosophical consequences of the quantum physics the demonstration that reality is ontologically indeterminate and indeterminable, without implying the neglect of the notion of Real, but avoiding the subjectivist reading that the act of measuring co-constitutes the object it measures. From this point of view, Heisenberg’s version of the indeterminacy allows to save the notion of an objective reality independent of the observer, but also to determinate it, to know how it is in itself. But here we fall into a vicious circle, if we take into account the assumption of Bohr, according to which one cannot determine the effect of the measurement interaction on the measured object, which is indeterminable. And here there is a short step to return to Hegel, to that passage of The Phenomenology of Spirit, where Hegel warned that knowledge is an instrument to get possession of the Absolute, but its application implies an alteration of the process. Consequently, both Hegel and Bohr refuse a position that first causes a gap between subject and object, and then it aims at bridging this gap. In fact, the subject is included in the movement of the object to be known.

It was noted that in The Cigarette After (part IV of Less than Nothing), but also in The Indivisible Remainder, Žižek applies a characteristic «blend» of Lacanian psychoanalysis and pop culture to the interpretation of Schelling, finding a reverberance with some Lacanian themes. The idea of the «immanence of the observer to the observed» refers to the concept of immanence of the percipiens to the perceptum as presented in the Lacanian theory of vision. Through the

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59 Žižek 2012: 917.
concept of gaze, Lacan places the subject under observation, and the subject “vanishes”, experiencing himself as an object which is seen. On one hand, the “Thing”, as one of the three categories “Real, Imaginary and Symbolic”, is an «obscene surplus of materiality» or indivisible remainder, vacuous, obscure, that cannot be analyzed. On the other hand, according to the Schellingian theory of a «chaotic (and impenetrable) ground» of existence, the Real of the pre-logical drives is the spectral domain of the «not fully constituted reality». According to Peter Osborne, here the smoke is “puffed” in the face of Alain Badiou, Heidegger and the Ontology of the quantum physics. Žižek’s interpretation of Schelling lies at the centre of the interpretation of Hegel. Tracking Kojève, Schelling represents a useful intermediary, an excuse for the retrieval of Hegel through the reading of Freud by Lacan: «Schelling is here both “Schelling-for-Hegel” and “Schelling-for-Lacan”». The analysis of Schelling aimed to join the Absolute ego of Fichte and Spinoza’s substance, that is the natural world: how representations can be thought of as determined by the objects, and the objects to be determined by the representations? The unique principle understood as rational and conscious activity, in Lacanian terms, was attributed to the difference between the Symbolic and the Real.

Deeply stimulated by the thought of Deleuze, Merleau-Ponty, Bruno Latour and Donna Haraway, the feminist-physicist Karen Barad in Meeting the Universe Halfway (2007) turned into the interpretation of the physicist Niels Bohr. Barad wants to reject the idea of a «correspondence relation between words and things», because an exaggerated faith in the power of language granted «too much power» to language at expense of the matter. Following the materialist feminism, for Barad matter suffers, remembers, desires, yearns. She quotes Nietzsche, who warned against linguistic structures that shape our understanding of the world, inducing the belief that the structure “subject/predicate” reflects a prior ontological reality. Her “agential realism” – for some commentators another way to name the “new materialism” – constitutes a “relational ontology” aiming to highlight “the immanent enfolding of matter and meaning” – «matter and meaning are mutually articulated» – since the reality is composed of “things-in-phenomena”. Abandoning the model of the subject as opposed to objective reality, Barad takes as fundamental ontological reality the phenomenon, whose both sides (object and apparatus) are entangled: entangled phenomena obey laws of the quantum physics. Bohr sustained that “phenomenon” or “entanglement” is all what we can observe in an experiment: the inseparability of the apparatus and the observed object, where the observer is part of reality, and his knowledge is founded in material practices. So independent objects are abstract notions, the real objective referent is the intra-action between apparatus and what we

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61 Osborne 2013: 21.
call electron (or wave). For the Agential Realism, the world is conceived as a
dynamic process of intra-actions. Intra-actions are activities that create multiple
entities and meanwhile constitute a new way of thinking causality. They are not
representations of things, but

phenomena—dynamic topological reconfigurings/entanglements/relationalities/(re)
aperticulations

which enact the possibilities for reconfiguring determinate causal structures
with determinate boundaries, properties, meaning etc.

The implications of the quantum physics are that our knowledge of reality is
included in the reality itself, not that mind creates reality. For Barad, ontology
changes when we change apparatuses disturbing the particle and we move from
a particle pattern to a wave pattern. She moves away from subjectivism and
idealism, because there is not any reference to the observer out there, but when-
ever we repeat the experiment under the same conditions (= same entanglement
of object and apparatus) the result will be the same. The lesson of quantum
physics is not the uncertainty, but indeterminacy, since there are not inherent
properties or boundaries of things and neither things before the measurement.
The act of measurement itself produces properties and boundaries and agency
is an enactment, it is not something that someone has.

The unity of phenomenon admits agential cuts where the measurement
apparatus enacts a cut isolating the different aspects of the phenomenon, the
object delineated from the agency of observation. Apparatuses are not simply
material, but they can also be socially constructed, dependent on social, ethical
and political basis. Barad elaborates the notion of “diffraction”, which is an
important phenomenon in classical and quantum physics, as «a tool of analysis»
for studying «the entangled effects [that the] differences make»62. “Diffraction”,
as Barad said, is a disrupting methodology pulling from social critical theories
(such as feminism, marxism, science, technology and physical theories), in
order to cope with the problems generated from the false sense of objectivity
of representation. The purpose here is a new understanding of how «discursive
practices are related to material phenomena»,63 in an “experimental metaphysics”
where there is no boundary between science and philosophy.

Many similarities arise out between Barad’s ideas and Schelling’s thought of.
Schelling’s view of materiality (his «one with everything») has much in common
with Barad’s concept of the agential realism64. His description of matter and
its origins is an attempt to move beyond a purely representationalist model of

63 Ibidem: 200.
64 Davis 2015: 4.
reality. According to the quantum physics, our knowledge of reality is included in the reality itself, it is not that mind creates reality. Schelling's conception of nature highlights the relation between Naturphilosophie and contemporary idea of materiality characterized by agential qualities. In Schelling's view of nature everything is originally indistinguishable; all the natural objects are dissolved in its productivity. When points of resistance come out, objects gradually distinguish themselves, and the stream which is pure identity turns back on itself. On one hand, Schelling's stream – where an eddy emerges if it confronts resistance – becomes in Žižek the «protocosmic abyss of chaotic, not yet fully constituted reality» – a figure of the Lacanian real. From another hand, Schelling's Naturphilosophie moves from Kant's dynamic theory of matter presented in the Foundations as well as in the Opus Postumum, and he takes on dynamic qualities as a means to eliminate the gap between Subject and Object in a “vibrant materiality” of entanglement and constant motion. His description of the productivity of nature foreshadows the following passage from Barad:

> the world is a dynamic process of intra-activity and materialization in the enactment of determinate causal structures which determinate boundaries, properties, meanings, and patterns of marks on bodies. This ongoing flow of agency through which part of the world makes itself differentially intelligible to another part of the world and through which causal structures are stabilized and destabilized does not take place in the space and time but happens in the making of the spacetime itself. (Barad 2007: 140)

Barad coinceives a performative view of the physics («Theorizing, like experimenting, is a material practice») to ground her agential realism. But performativity does not belong only to human agents, being rooted in the “agential status” of the matter itself, which becomes “an agentive factor in its iterative materializations” so that identity and difference are continuously reworked. Barad’s constant focus on practices leads her away from German Idealism to embrace a tendency in new materialism as well as various streams of Speculative Realism, without forgetting the reference to importance of epistemology.

**Back to Kant**

Someone may then wonder why precisely Schelling has been the central philosopher of such intellectual operation. After all, it is still the ancient gap between physics and metaphysics, which was the challenge faced by Kant in Opus postumum. For Kant physics was not the science of nature in general, but the science which intended to study a “particular nature”. Wondering how a physics was possible, Kant tried to attribute a scientific character to knowledge, not wanting to confine it to mere empiricism. For this reason, he aimed at giving to physics a transcendental foundation to justify its character of science,
considering science of objects as experiential data, where the mere presence of objects in space and time was not sufficient to establish the objective relationship among the things that science claims to establish.

Then the intellect itself lays down the laws and a Konstruktion occurs, without which the experiment could not be done. Consequently, physics becomes possible because the subject himself constructs the object, not the sensible object, but the structure of the object. Kant endeavours to reconcile physics and metaphysics through the mediating capacity of inventing conceptual constructs not directly given in the sensible experience. He focuses on setting the conditions of “thinkable” experiment, and he resorted to the hypothesis of the ether, which is the basis to explain the phenomenon under consideration. The object is “indirect”, it is constructed in the matter of ether, which becomes a transcendental condition: a necessary hypothesis for the possibility of experience. It was noted that according to the theory of Percy Williams Bridgman, physical entities (e.g. field, mass, energy, voltage, particle etc.) are mostly constructs, created in order «to enable us to deal with physical situations which we cannot directly experience through our senses, but with which we have contact indirectly and by inference». In Kantian terms: it’s about objects constructed to uniform the experience. Mutatis mutandis, this was what Kant himself meant with the concept of “indirect phenomenon”. Now we can understand the origin of the controversy stemming from the naïve materialism, correlationalism and the dispute about the priority between ontology and epistemology. It is now time to come back to the question put at the beginning: is it true that the philosophies of the late twentieth century have neglected the nature, where only the French philosophers, from Deleuze to Derrida etc., have taken it into account? What happens to the New Essentialism and theories inspired by Daniel Dennett, Saul Kripke, Hilary Putnam - going through Badiou and Meillassoux – which in spite of all their limitations, and the revival of Aristotle, have taken care of nature regardless Schelling?

65 Kant 1993: Konvolute X and XI.

66 Bridgman 1927: 60.
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