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Ľubica Učník
Ivan Chvatík
Anita Williams *Editors*

The Phenomenological Critique of Mathematisation and the Question of Responsibility

Formalisation and the Life-World

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L'ubica Učník • Ivan Chvatík • Anita Williams
Editors

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Editors
Ľubica Učník
Anita Williams
Philosophy, School of Arts
Murdoch University
Perth
Australia

Ivan Chvatík
The Jan Patočka Archive
The Center for Theoretical Study
The Institute of Philosophy at the Academy of Sciences of the Czech Republic
Prague
Czech Republic

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For Dr. Steve Schofield (1978–2008), in memory of our many, often heated, but always enjoyable, conversations. You will always have a seat at our table.

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Contents

The Phenomenological Critique of Formalism: Responsibility and the Life-World

Ľubica Učník, Anita Williams, and Ivan Chvatík

Abstract Self-responsibility and self-critique have been themes in philosophy since Plato's Socrates endorsed the demand to 'know thyself' [*γνωθι σαυτον*]. In the modern philosophical tradition, self-critical reason, a reason that gives the law to itself, has been at the very centre of the practice of both epistemology and ethics. In the twentieth century, the European phenomenological philosophers Edmund Husserl and Jan Patočka brought new clarity and a sense of urgency to the critical thinking surrounding the need for responsibility. Using Husserl's and Patočka's thinking as the starting point for a critical reflection, this volume proposes different approaches to reflect upon the increasing formalisation of all aspects of our lives, which is particularly relevant for the present age.

Keywords Formalisation • Mathematisation • Life-world • Responsibility

> Husserlian theory of modern science is nothing other than a reflection on the perils of fruitfulness, on the ruses of genius, on the irrationality which rationality itself endangers – not, to be sure, necessarily, yet not wholly accidentally, either. (Might not this shadowy side of rationality, this negative aspect of science, lie at the roots of certain specific evils that not only occasioned the catastrophe that Husserl sought to prevent with his reflections but that, unfortunately, are also still very much with us?) (Patočka 1989 [1971]: 226).

Our aim is to contribute to debates surrounding the prevalence of the formalisation of knowledge leading to an instrumentalisation of the world that is oblivious to human lives, with their everyday needs, hopes and aims. Contributors concentrate on the issues of formalisation and the ethics of responsibility, founded

Ľ. Učník (✉) • A. Williams
Philosophy, School of Arts, Murdoch University, Perth, Australia
e-mail: l.ucnik@murdoch.edu.au; anita.williams1920@gmail.com

I. Chvatík
The Jan Patočka Archive, The Center for Theoretical Study, The Institute of Philosophy at the Academy of Sciences of the Czech Republic, Prague, Czech Republic
e-mail: chvatik@cts.cuni.cz

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in careful study of Husserl, Patočka and Martin Heidegger. The contributors' approaches are critical and interpretative, but also textual and historical. Papers in this volume address topics of contemporary concern, in ways that also illuminate the relevance of previous thinking to the issues at hand. The authors aim to offer phenomenological accounts of the nature of self-responsibility as a critical, self-reflective and ethical practice, which is required in order to correct the increasingly value-free formalism of scientific knowledge.

Husserl

As Husserl showed in *The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy*,[1] the Galilean conversion of nature into geometrical relations is the beginning of modern science, which leaves the world of our experience far behind (Husserl 1970: 23 ff). It starts with describing nature in terms of mass and energy in geometrical space and time. It is well known that the crisis of classical physics brought the problem of the mechanistic conception of nature to the forefront; yet modern science continues with its ever-increasing mathematical formulations (see Burtt 1925; Sullivan 1933; Whitehead 1925). As a result, the everyday world is explained in terms of scientific models that were originally constructed in order to formalise our life-world but now become the measure of it. We live in a double world: the world of epistemically secure objective knowledge, generated by the sciences; and the subjective, changeable world of our human experience, which science relegates to irrelevance (Husserl 1970; Patočka 2008 [1936]). Severed from the everyday world, formal knowledge leads to objective knowledge bereft of everything human, which is now considered subjective. The place of humans and their responsibility for the world they live in becomes problematic. Certainly, this process has brought to us – for better and for worse – significant technical improvements to our environment, enhancing our living; but it has also brought about threats to our world and to human life. The knowledge of the physical world is expressed in formulas, creating elaborate models, which we have forgotten are *only* models, originally derived from, but not equivalent to, the natural world.

Already at the beginning of the modern scientific re-conceptualisation of nature, Blaise Pascal expressed his horror at the "eternal silence of these infinite spaces" (Pascal 1960: no. 392). This type of formalised knowledge now extends to every sphere of our living. In 1891, in his book *Philosophy of Arithmetic: Psychological and Logical Investigations* (Husserl 2003),[2] Husserl preoccupied himself with the problematic nature of scientific formalism, which became the defining motif in his phenomenology. According to Husserl, science became a technique, forgetting its own starting point – that is, the life-world, as he explicitly argues in his last work,

[1] From now on abbreviated to *Crisis*.

[2] From now on abbreviated to *Philosophy of Arithmetic*.

the *Crisis*. From *Philosophy of Arithmetic* onwards, Husserl endeavored to trace and explicate "the nature of the abstraction process" (Husserl 2003: 125) which has become a defining feature of modern science and which scientists – at their higher level of formalisation – forget, thereby turning science into "a theoretically and practically successful *technē*" (Patočka 1989 [1971]: 225). This turn towards technique, instead of genuine engagement with theoretical insight, leads to "the considerable difficulties that accrue to [scientific] understanding". In the process, scientists overlook many "dangerous errors and subtle controversies" (Husserl 2003: 14).

In 1922, Max Weber also developed a critique of science (Weber 1978 [1922]). However, as Aron Gurwitsch reminds us, "whereas Weber is prepared to resign himself to the given state of affairs, Husserl holds out the prospect of a regeneration of western man under the very idea of philosophy, into the unity of which the sciences have to be reintegrated" (Gurwitsch 1956: 383, note 388).[3] In other words, Husserl's task is to defend the idea of Western reason, which is, according to him, a defining feature of European humanity. To defend reason means to reflect on the positive sciences, which have forgotten their own initial impulse: scientists became technicians, manipulating formal symbols without understanding where those formulas came from. According to Husserl, science creates "a well-fitting *garb of ideas*, that of the so-called objectively scientific truths" that obscures the world of our living, taking "for *true being* what is actually a *method*" (Husserl 1970: §9h, 51, emphasis in original).

Recalling Galileo's role in Western culture's shift in the understanding of nature, Husserl points out that Galileo's mathematisation leads to the formalisation of Descartes and Leibniz. Galileo's mathematisation is still tied to geometry: in other words, to shapes which are idealised from the world. The *mathesis universalis* of Descartes and Leibniz severs this connection of geometry to the life-world. By transposing geometry into algebra, numbers, not shapes, come to define nature. The *mathesis universalis* eliminates meaningful relations to the world, which is still – however obscurely – reflected in geometry. The purging of the life-world from formal knowledge is Husserl's central concern in his critique of formalisation.

Husserl's conceptualisation of the 'life-world' is central to the analysis of the nature of formal knowledge and the manner in which formalised knowledge, tied to technological advances, has shaped modern culture. Husserl claims that in order to understand our responsibility for knowledge, formalised or everyday, we must acknowledge that all our claims to knowledge have their starting point in the life-world. Hence, Husserl's stress on responsibility is intimately tied to his discovery of the importance of the life-world. However, the life-world and responsibility are only of interest to Husserl in so far as they are connected to this problem of knowledge; and while he clearly sees the relevance of his critique of knowledge for contemporary society more generally, the problem of knowledge remains his main focus. From the beginning of his work, Patočka is influenced by Husserl's

[3] See also Gurwitsch 1974.

focus on the relation between knowledge, the life-world and responsibility, but focuses directly on the implications of Husserl's phenomenological reflection for contemporary culture.

Patočka

The Czech philosopher Patočka (1907–1977) is relatively unknown in the Anglo-Saxon philosophical tradition, except as a phenomenologist; and even then, he is known more as an interpreter of Husserl than a philosopher in his own right. Yet, according to Rodolphe Gasché, after Martin Heidegger's recasting of phenomenology as ontology, Patočka's work played an important role in shaping "the European debate about the future of philosophy and phenomenology" (Gasché 2002).[4] Ludwig Landgrebe reminds us that Patočka was "the last personal student of Edmund Husserl" (Landgrebe 1977: 287) and Jacques Taminiaux suggests that Patočka was "the most important Czech philosopher of the [20th] century and one of the greatest names in the history of the phenomenological movement" (Taminiaux 1996). Taminiaux also acknowledges Patočka's involvement with the *Charta 77* movement,[5] noting that Patočka "remains a symbol of the cause of freedom in the age of totalitarianism" (Taminiaux 1996). Patočka's participation in the authorship of *Charta 77* documents is in keeping with his lifelong concern with the crisis of European societies. His involvement in the *Charta 77* movement cost him his life, leading Landgrebe to write: "Patočka has chosen a fate, for which Socrates was the great model. In the beginning of philosophy Parmenides spoke of the signs which stand on the difficult path to truth. Patočka's death has placed one such sign" (Landgrebe 1977: 290).

For most of his life, Patočka was not allowed to teach philosophy or publish in the philosophical journals. His article, 'Galileo Galilei and the End of the Ancient Cosmos', was published not in the field of philosophy but in the popular science journal *Vesmír* (Patočka 1954). During the previous year, Patočka had published in the same journal, under the general heading, 'On the Development of the Ideas of Natural Science', a series of articles which were all subsequently revised and included in the book, *Aristoteles, Jeho Předchůdci a Dědicové* (*Aristotle, His Forerunners and Inheritors*) (Patočka 1964a, b), now also translated into French.

[4] See also Ricœur 1996, 2000: 371–372; Jervolino 2000: 388; Landgrebe 1977; Rezek 2010; Schuhmann 1987; Chvatík and Abrams 2011.

[5] In January 1977, *Charta 77* was released. It was a call to the Government of the Czechoslovak Socialist Republic, which had recently signed the Helsinki Agreement, to uphold its commitment to the Helsinki Agreement, which stipulated the basic human rights of the citizens of the State. Patočka was one of the first three signatories of *Charta* 77 and he actively involved himself with its promotion. He died from a brain haemorrhage after prolonged interrogation by the secret police. See Kohák 1989; Blecha 1997: 193.

Patočka further develops Husserl's project, making the life-world, or as he calls it, the natural world, the underlying motif of his philosophy. He claims that "science and scientific philosophy represented an instance of life in truth and responsibility" (Patočka 1989 [1973]: 327), until formalisation became the only consideration of the new science. Together with Husserl, he insists that we must return to the life-world to recover a human "responsible attitude", which is nothing else but "the *life in truth*". In other words, it is life dedicated to accounting for every step of the task, in order to present self-critical – and therefore responsible – rationality (Patočka 1989 [1971]: 226).

Patočka is primarily interested in our responsibility for our acting in the world. While he draws upon Husserl's notion of responsibility and the life-world, he shifts the focus from knowledge to our acting in the world. By doing so, he highlights how Husserl's critique of formalism can be expanded to show the increasing formalisation of all aspects of human life. To confront the formalisation of everything, we need to realise that we are responsible for this situation. Patočka emphasises that the situation we find ourselves in is always a historical situation, in which past ideas inform our own. Yet, despite the fact that a situation is not of our own making, Patočka maintains that we are responsible for it; because it is a human situation and it is only we who can change it. In contrast to Husserl's concept of responsibility, which is always tied to knowledge, Patočka's understanding of human responsibility is directly connected to human life and acting in a historical world.

Consistent with the importance Patočka places on the historical nature of our human situation, he always approaches Husserl from a historical standpoint. Patočka's *An Introduction to Husserl's Phenomenology* is unique because he does not follow the structure of a traditional introduction outlining Husserl's theory in relation to other contemporary theories (Patočka 1996). Instead, Patočka's introduction writes Husserl into the history of ideas, showing how Husserl's ideas relate to previous thinkers. Patočka's historical approach can still rightly be called phenomenology. As Ľubica Učník points out in her chapter, 'Concept of Evidence', Patočka starts from Husserl's concept of evidence and traces back the modern idea of knowledge to show how evidence has been conceived differently by thinkers prior to Husserl's time. Patočka's focus on history does not detract from the phenomenological nature of his work; rather it enriches phenomenology by showing the uniqueness of Husserl's approach as well as his relevance to the understanding of contemporary issues.

No doubt, there are many warning signs that should prompt us to rethink our responsibility as humans. Environmental catastrophes and global warming are some of them. Similarly, the recent global financial crisis shows the way in which a mode of formalism embodied in systems of financial transactions can become isolated from the life-world in problematic ways; not only in the obvious sense of being removed from the real valuation of companies on which actual wealth depends, but also in the systems and structures that – to use formulaic language that has become a part of our speaking – govern and manage 'investment behaviour', 'company operation' and even individual 'performance'. Thus the economic system functions mechanistically, divorced from any sense of responsibility.

We invest mechanistic models with pretend life-world legitimacy. We forget that these models were built by the formalisation of the life-world, stripped of the actual authenticity of living in the world; thereby giving rise to mechanisms that are abstracted from the way we live. In effect, we construct formalised models that we then apply back to the life-world, as if the life-world were frozen in time.

The failure of responsibility and judgment that formal models give rise to – evident in the global financial crisis – suggests a replacement of the capacity to reflect and judge with the capacity merely to calculate. By using computer models, for example, we reduce human interactions to mechanistic processes and assume that perfect causality also applies to humans living in the world. We delude ourselves that these formalised models can give us 'solutions' to the living relationships between people. In the process, we lose a sense of real worth, increasingly operating within a framework oriented only to the maximisation of corporate gain; while individuals see competition and financial reward as the only criteria governing success.

This formalisation of everything has largely gone unnoticed, despite its prevalence. One of the latest takes on Husserl's critique of scientific formalisation is Michel Henry's 1987 book in which he labels Galilean science as "barbarism" because it has reduced the world into formulas that are now becoming the measure of every domain of human living; thereby eliminating any other forms of thinking (Henry 2012). Yet, is 'barbarism' the only way to think about our present world, science and the role of humans? The formalisation of everything is a complex problem tied to psychologism, scientism, human knowledge, human responsibility and the life-world. This volume offers different answers to the quandary between scientism, the life-world and human responsibility left to us by the increasing formalisation of the life-world.

In this edited volume, we endeavour to take seriously Husserl's and Patočka's phenomenology, by asking questions regarding the meaning of the life-world – the only world that we have – and the relevance of the critique of formalism to human freedom and responsibility. The collection begins with Patočka's review of the first part of Husserl's *Crisis*, published in *Philosophia* (Husserl 1936); and is followed by contributors' papers, in three parts. In Part Two, Učník, Ivan Chvatík, Burt Hopkins, Pavel Kouba and Ludger Hagedorn discuss Patočka's work and his unique orientation to Husserl's phenomenology, which focuses on the life-world and questions of meaning, truth and responsibility. Učník and Chvatík present an introduction to Patočka's work which fits with Patočka's historically informed phenomenology. They present Patočka's work in a way that stresses the embeddedness of the history of ideas within it, by introducing it within its historical context; rather than outlining his general theory and its relation to other phenomenological thinkers. In Part Three, Dermot Moran, Nicolas de Warren, Rosemary Lerner and Tom Nenon turn their attention back to Husserl's own work; showing that there is firm ground for Patočka's emphasis on the relevance of Husserl's phenomenology to existential questions and the importance of the life-world. In Part Four, James Mensch, Anita Williams and Chvatík focus on the contemporary implications of formalism and, hence, explicitly address the continued relevance of the phenomenological critique of formalism.

Part One: Patočka's Review of the *Crisis*

Setting the stage for this book, and of central importance to it, is Patočka's review of Husserl's *Crisis*; which has been translated especially for this volume and introduces many of its themes. Here, Patočka outlines the relevance of Husserl's *Crisis* to existential questions regarding the life-world and responsibility. As is typical for Patočka, this is not simply a summary of Husserl's *Crisis*. Patočka relates Husserl's last work to the history of thinking, as well as illuminating the existential aspects of Husserl's critique of the mathematisation that leads to empty formalism.

As Patočka outlines, Husserl's *Crisis* is, one might say, yet another introduction to phenomenology. Yet the quip – "what with writing introductions, Husserl will never get down to his actual philosophy" – overlooks a crucial aspect of phenomenology. As Patočka points out, each 'introduction' asks anew the perennial philosophical questions. Patočka notes the importance of this new beginning: it means that there is no "royal road" from non-phenomenological to phenomenological thinking. Phenomenology is not "a mechanical explication of any one principle". Instead, "phenomenology focuses all its attention on the central principle of philosophy as such". For Patočka, the *Crisis* presents a new path for asking questions central to philosophy.

Patočka states that the new beginning presented in the *Crisis* is "unprecedented" in Husserl's oeuvre because of Husserl's focus on the historical origins of mathematical natural science. Husserl does not simply outline "a loss of the meaning of science for life". Instead, he attempts to "renew the idea of modern philosophy" by returning to "the great original idea of science": he asks after the sources of success and contradiction in modern natural science. As such, Husserl presents a thorough critique of formalism because, according to Patočka, Husserl shows that mathematics takes on "a new, universal significance" that comes to supersede "the world of our everyday experience". According to Patočka, it is against this backdrop that Husserl returns to questions regarding the sciences of the spirit. For Patočka, an important aspect of Husserl's *Crisis* is that it is a critique of formalism that is, simultaneously, "a call meant to change man in his inward make-up"; a call to address "existential problems". Patočka emphasises the historical relevance of Husserl's work as well as the existential questions it raises about human freedom and responsibility.

Part Two: Patočka's Phenomenological Philosophy

In the first paper of Part Two, Učník discusses Patočka's engagement with Husserl. Učník notes Patočka's indebtedness to Husserl's work, but highlights two important aspects that separate Patočka from Husserl; namely, that Patočka starts from the history of thinking; and that he is primarily interested in existential and ontological questions over epistemological concerns. Učník outlines the historical nature of

Patočka's philosophy by returning to his PhD dissertation, entitled *The Concept of Evidence and its Significance for Knowledge*. This dissertation presents "a historical account of the concept of evidence" from which he concludes that "to speak of knowing, a being must reveal itself to us, thereby allowing us 'to know it'". For Patočka, the modern "abyss between our thinking and the world" takes on a new significance. This abyss is of concern for our everyday experience of the world because it leads to a "rupture in our understanding of the world: between the world of our living and its scientific construct". In line with Patočka's review of Husserl's *Crisis*, his dissertation also accentuates the natural world (*Lebenswelt*) as an important aspect of Husserl's work as well as underlines the existential relevance of Husserl's phenomenology. Učník concludes that "Patočka's philosophical interests seem to circle around questions concerning meaning constitution, truth and responsibility" and suggests that "his approach to considering these same things under many 'shades of light' is in itself a profoundly phenomenological practice".

In the second paper of Part Two, Učník and Chvatík together turn to discuss Patočka's philosophy directly, showing Patočka's firm basis in the history of ideas as well as his concern for existential questions overlooked by modern natural science. Učník and Chvatík focus on Patočka's writing on modern science, where Patočka traces the change from the ancient *kosmos* to the modern conception of nature as mathematical. Patočka discusses both the continuities and discontinuities between Galilean physics and the Aristotelian and Platonic philosophy that preceded it. Patočka's primary concern is that while Socrates marks a definitive change from the Pre-Socratics because he foregrounds "the question of human existence", modern science "is mute to our human predicament". From the point of view of modern science, humans become "truly cosmic creatures" yet, in so becoming, we lose our earthly home and "we come to consider the universe in a way that is not reflective of our earthly experience". In light of these considerations, Patočka puts front and centre the resulting spiritual crisis by suggesting that modern man "'has no unified world-view'": instead, humans live in a "'double world'". Importantly, it is only our "'naturally given environment'" that we can experience, yet paradoxically, we take it for granted that the mathematical universe is the only true world. Učník and Chvatík outline that Patočka's point is to show that modern science "has brought many advantages to human life", but "it has also brought much despair, because we cannot await moral answers from a mathematised nature". For Patočka, it is imperative to recognise that mathematical science cannot answer questions about human existence.

Hopkins also engages with Patočka's writing on modern science, but specifically focuses on why Patočka claims that *mathesis universalis* leads to a loss of unity. Hopkins emphasises Patočka's engagement with the history of thinking, as distinct from Husserl's. Hopkins stresses Husserl's exceptional contribution to philosophy in the *Crisis*: he writes, "Husserl endeavours there to do what heretofore had never been imagined. . .namely to unify *a priori* cognition with historical phenomena". Hopkins notes that it is difficult to think "together what appear *conceptually* as opposite – the *concept* of the '*a priori*' and the *concept* of 'history'". For Hopkins, Patočka not only saw that there was "no *conceptual* contradiction" in "thinking

together the '*a priori*' with…'historicity'", but also understood "that the most rigorous phenomenological account of the *Sinne* in question demands precisely tracing back their *apriority* to origins manifest in history". In light of this, Hopkins suggests that Patočka not only "goes beyond Husserl's fragmentary account of Galileo in the *Crisis*", but also presents an account of the "mathematisation of nature that is informed by *actual* history" (emphasis in original). Hopkins proposes that, despite this important difference, both Husserl's and Patočka's underlying concern in their critique of formalism is a concern with "the loss of unity" in our understanding of the world in which we live. In his paper, Hopkins takes up the path Patočka presents and returns to the history of arithmetic in order to discover what a loss of unity means and how it is related to the rise of modern mathematical sciences.

Kouba is also interested in the historical aspect of Patočka's work, but specifically focuses on what history means for Patočka by discussing his concept of time. In doing so, Kouba highlights the distinction between objective, formalised time, which does not speak to human existence, and Patočka's notion of time, which is constitutive of our existence. Kouba outlines that, much like Heidegger's concept that inanimate objects are worldless, Patočka suggests that inanimate objects are timeless. For Patočka, inanimate objects have no internal relation to time; they are determined by a "momentary causal constellation", by a past that is no longer. As such, inanimate objects are "wholly indifferent to any succession" of time. Living beings, on the other hand, do have "an internal relation to time" because a living being passes "through a sequence of stages whereby it completes a certain life form". However, living beings remain "dominated by the past". By contrast, human beings are capable of relating to a "non-real" future, which entails that we can "detach [from] the present and assume a distance from reality as a whole". Our ability to distance ourselves from the present also means that we can rethink the past in order to arrive at something genuinely new. For Patočka, it is important that human beings are rooted in the past, but they are not determined by it: we can do or think something new because we relate to a non-real future and not only the concrete present. Kouba's discussion of Patočka's concept of time reveals the importance of the difference between the world constructed by the scientist and the world of our living. For the scientist, time is no more than a succession of causes and effects, where human beings are merely an outcome of causality. In contradistinction, Patočka shows that time speaks to the way we exist in and experience the world around us because we are not determined by our past: we can start something genuinely new.

Hagedorn also emphasises the importance of history for Patočka; as well as Patočka's focus on existential questions. Hagedorn focuses specifically on Patočka's equivocal discussion of subjectivity in his habilitation thesis, *The Natural World as a Philosophical Problem*,[6] as an answer to "*the* Nietzschean question: the

[6] Erika Abrams' translation of Patočka's *The Natural World as a Philosophical Problem* is forthcoming (Patočka unpublished). In this volume, all references are to this translation.

onslaught of nihilism and the attempt to overcome it" (emphasis in original). Hagedorn argues that transcendental subjectivity as a ground of knowledge is not Patočka's concern. Instead, Patočka's concern is that there must be a "lively" subject who relates to the meaningful world around her. As such, the subject is important for Patočka in order to explain sense-bestowal and responsibility as well as to preserve the liveliness of experience. Hagedorn emphasises that Patočka is concerned with a subject who lives in the world, rather than the transcendental subject as the guarantor of knowledge.

Part Three: Husserl's Phenomenology

With Moran's paper, we move to Part Three of this volume. Moran returns to Husserl and addresses the question of what the life-world means for Husserl. He locates Patočka's discussion of the natural world as one of the earliest engagements with Husserl's concept. Moran critically engages with Husserl's concept of the life-world, pointing out that Husserl's concept of the life-world has been very influential, particularly on thinkers following the phenomenological tradition: Alfred Schütz, Patočka, Hans-Georg Gadamer, Hannah Arendt, Jürgen Habermas and Aron Gurwitsch. Despite the influence of Husserl's concept of the life-world, Moran outlines the confusion surrounding this concept. He argues that there are certain defining features of Husserl's concept of the life-world: the life-world is distinguished from the formal world of the natural sciences; the life-world is the world of everydayness; the life-world is both natural and cultural; the life-world is a backdrop to meaningful things. Moran concludes by suggesting that, due to the multifaceted nature of Husserl's concept of the life-world, there is a need for further clarification both of this concept and of the way the concept is taken up by thinkers, such as Patočka and Schütz.

De Warren extends Moran's discussion of the meaning of the life-world by critiquing the notion of the life-world as a cultural world. De Warren does so by discussing the work of Sebastian Luft. Luft emphasises the importance of Husserl's "commitment to the Enlightenment", which, for him, also entails an ambition for a transcendental phenomenology. However, for Luft, "the '*final and ultimate* shape' of Husserl's thinking is a 'hermeneutical phenomenology of the correlation *a priori* of the world as historical world, as a world of culture'" (Luft 2011: 27). It is this claim that De Warren critically reflects upon in his paper; thereby also further clarifying what Husserl means by life-world.

Lerner turns attention from the motif of the life-world in Husserl's work to what Husserl means by formalisation. As such, her paper parallels Hopkins's discussion by addressing questions regarding the origins of mathematical science; but she does so by focusing on this topic in Husserl's own work. Lerner discusses Husserl's understanding of scientific philosophy: both his critique of the reduction of science to mathematical science and his own conception of a scientific philosophy. In this way, Lerner concentrates on Husserl's critique of formalism in his own work and

shows the importance of self-responsibility for Husserl's conception of his scientific philosophy.

Nenon parallels Hagedorn's discussion of subjectivity by returning to the meaning of transcendental subjectivity in Husserl's work. Nenon argues that it is a caricature to reduce Husserl's transcendental subject to a wordless, asocial subject. Nenon shows that sociality is presupposed by Husserl's transcendental subject. He concludes by showing the importance of responsibility for Husserl's thinking about subjectivity.

Part Four: The Continued Relevance of the Phenomenological Critique

Mensch begins Part Four by suggesting that formalism "seems to mark our age", and argues that this "rise of formalism" has led to a "transformation in the notion of responsibility". Mensch gives an overview of the rise of formalism by returning to Plato and Aristotle, as well as describing the change in thinking brought about by Descartes. It is in the context of this history that Mensch discusses Husserl's and Patočka's critiques of formalism, highlighting that these critiques foreground the question of responsibility. Mensch concludes by suggesting that, under the influence of formalism, responsibility has become the responsibility to follow a formal procedure; and proposes that this is not genuine responsibility, because genuine responsibility requires an embodied subject who is responsible for themselves and others.

Williams discusses the relevance of Husserl's critique of formalism to modern psychological models of the mind. She focuses on the neurocognitive model of perception to illustrate the problems with psychological models of the way we make sense of the world. Neurocognitive models of perception locate perception as a causal process, where our internal representations of a given object are causally determined by the physical energy reaching our sense organs. On this model, sense becomes nothing more than sensation. By contrast, extrapolating from Husserl's discussion of formalism in the 'Logical Investigation VI', a Husserlian understanding of sense perception reinvigorates a fuller notion of sense. Sense is not merely sensation, but is constitutive of human existence: we are not passive receptors of sense-data; we make sense of the world around us.

Chvatík concludes the volume by asking the question, 'Are we still afraid of science?'. Chvatík shows that Husserl's and Patočka's critiques of science are still relevant today, by discussing Stephen Hawking's and Leonard Mlodinow's book *The Grand Design* (Hawking and Mlodinow 2010). Chvatík outlines that, for Hawking and Mlodinow, human beings are no more than "mere collections of fundamental particles" (Hawking and Mlodinow 2010: 181) and, thereby, the authors declare clearly and explicitly the "naturalisation of the spirit" that Husserl critiqued. The contradiction that Husserl showed in this position is still alive and

well: the human achievements that make possible the positive sciences are obscured by a deterministic understanding of the human subject. Chvatík concludes by suggesting that the ease with which Hawking and Mlodinow can make claims about the determined human being and the multiverse or meta-universe in which they are supposedly located shows that the phenomenological critique remains relevant today and has largely been overlooked. In answer to his original question, Chvatík suggests that we are no longer afraid of science as such because its formalisation brings real knowledge, which we need in order to sustain the life of contemporary humanity. Nevertheless, we *should* "be afraid of these irresponsible scientists; who in their limitless pride proclaim nonsense".

Conclusion

To conclude our discussion of Husserl's and Patočka's thinking, which informs the contributors' engagement with phenomenology and the history of ideas, let us return to Husserl; to stress again that in his seminal work, the *Crisis,* he acknowledges the extraordinary dominance and success of the natural sciences based on their rigorous application of theory, the discovery of the infinity of knowledge, and the use of a certain formalistic method. However, as Husserl stresses, the nature of the scientific attitude has not been reflected upon sufficiently and bias is evident, with science developing into a kind of applied technicity that dominates and controls all aspects of life. Indeed, Husserl stresses the idea of responsibility in connection with the idea of infinite tasks. The idea of the infinite task – which can never be achieved but must always be revised through the cooperation of many thinkers – is at the heart of Husserl's understanding of responsibility. Only by exposing the architecture of our arguments can we present them to others and make them participate in the further development of knowledge. However, as Husserl and Patočka insist, we need always to refer back to our starting point, the life-world, to ground our insights and understanding. To fail to do so takes us into the domain of formal thinking turned into technique. We use the outcome of the previous task in its formalised manner, and proceed on the level of abstraction only. Leaving the life-world behind, we assume that this formalised account of the world is more accurate, and therefore more true. We then proceed to use it to understand the life-world. Yet, the starting point of philosophy, from which the sciences grew, is "nothing other than a life" dedicated to "a fully responsible thought" (Patočka 1989 [1971]: 226).

This volume represents an engagement with issues that are relevant to our lives in the manner of a fully responsible attitude. Thereby, it presents a phenomenological reflection upon the continued irresponsible formalisation of all aspects of human life, and calls attention to the need to stop and think about what this formalisation means for our life and our world.

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Part I
Patočka's "Review of the *Crisis*"

Edmund Husserl's *Die Krisis der europäischen Wissenschaften und die transcendentale Phänomenologie*

Jan Patočka

Introductory Note[1]

This paper is Jan Patočka's review of the first version of Husserl's *Krisis*, as published in the journal *Philosophia* I (Belgradi 1936), the organ of The International Society for Philosophy (*Internationale Gesellschaft für Philosophie*), established in 1935 by the former president of Germany's Kant Society, Arthur Liebert. Liebert emigrated from Berlin to escape the political oppression of the Nazi regime, and became professor at the University in Beograd. The text in *Philosophia* I is the transcript of Husserl's presentation in Prague; he had been invited by the Philosophic Circle of Prague, a union of Czech and German philosophers living in Czechoslovakia. (To keep the balance between Czechs and Germans, the official language of the Circle was French, as well as its title, *Cercle philosophique de Prague pour les recherches sur l'entendement humain*). The transcript in *Philosophia* was the only publication of Husserl's work entitled *Krisis* during his life. At the beginning of this volume of *Philosophia* there is a declaration by J.B. Kozák and E. Utitz, the Czech and German presidents of the Prague Circle, stating that the essays that follow (including Patočka's *Der Geist und die zwei Grundschichten der Intentionalität* (*Spirit and the two basic layers of*

Review of the first part of Husserl's *Krisis* as published in the Belgrade journal *Philosophia* 1 (1936): 77–176. First published in the book review section of the periodical *Česká mysl* 33 (1937), no. 1–2: 98–107. Translated by Erika Abrams and Martin Pokorný from the reprint in J. Patočka, *Sebrané spisy*, Vol. 6: *Fenomenologické spisy I*, ed. I. Chvatík and J. Frei, Prague: Oikoymenh, 2008, 366–78. Unless otherwise indicated, all footnotes have been borrowed from this second edition and are the work of the editors.

[1] Supplied by Eds.

J. Patočka (✉)
Charles University in Prague, Prague, Czech Republic

Ľ. Učník et al. (eds.), *The Phenomenological Critique of Mathematisation and the Question of Responsibility*, Contributions to Phenomenology 76,
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intentionality)) are "the first contributions to the research of the essence of spirit" to bear witness to the existence and activity of the philosophic society established recently in Prague for the same reason as Liebert's society in Beograd.

Readers of the journal *Česká mysl* have had the occasion to hear more than once about Husserl's Prague lectures,[2] originally entitled *Die Krisis der europäischen Wissenschaften und die Psychologie*. The yearbook *Philosophia* has meanwhile published the first part of the lectures, dealing mainly with the historical analysis of the critical situation of present-day science, a state of crisis which has long been a major theme in Husserl's meditations. The systematic considerations on the problem of subjectivity, of which I have already spoken as profoundly metaphysical, will appear in a future issue. The presently published text is, however, sufficient to justify this opinion.

Like so many of Husserl's works, this latest publication too is an 'introduction' to phenomenological philosophy. The fact has already been remarked upon and has given rise to the quip that, what with writing introductions, Husserl will never get down to his actual philosophy. Why does phenomenology need so many introductions? Because, far from being a mechanical explication of any one principle, phenomenology focuses all its attention on the central principle of philosophy as such. Radical philosophy arises only through taking the radical stance which – more important than any singular thesis – it bears in itself, just as the seed contains the future fruit. The radical stance which Husserl sees as philosophical par excellence is the standpoint of phenomenological reduction. Reduction is a process which has for Husserl the same fundamental significance as the discovery of the good-in-itself for Socrates, the turning away from the cave and toward true being for Plato, or again, for Kant, the turn from the investigation of nature to an inquiry into its conditions of possibility – though it is, of course, identical with none of these attitudes. (Much has been written about this even among Czech philosophers, but since the same mistake is made over and over, it should be called to mind once again that the phenomenological reduction is not a method for obtaining 'essences', it is not eidetic seeing, which is a procedure in its own right. The latest recurrence of this confusion is in Professor Tvrdý's *Logic*.)[3] Reduction is thus the point on which everything depends, the decisive point for the understanding or misunderstanding of Husserl's philosophy and its most difficult problem, all the more so since it stands at the very beginning of this philosophising while at the same time containing the whole of it *in nuce*. We see here why there are so many introductions, so many paths leading from non-phenomenological thinking to phenomenology: they are many because no single one of them can completely fulfil the task, no single one is the royal road.

[2] Patočka himself published at the time a short note on the event: "Edmund Husserl v Praze" [E. H. in Prague], *Česká mysl* 31 (1935), no. 3–4: 252 (reprinted in J. Patočka, *Sebrané spisy*, Vol. 12: *Češi I*, ed. K. Palek and I. Chvatík, Prague: OIKOYMENH, 2006, 496).—See German translation by L. Hagedorn in *Jan Patočka. Texte – Dokumente – Bibliografie*, L. Hagedorn and H. R. Sepp (eds.), Freiburg: Alber, 1999, 233–4. *Trans.*

[3] J. Tvrdý, *Logika*, Prague: Melantrich, 1937, esp. 29–30.

What is the reduction all about? This question cannot be answered by any thesis in the sense of a specific answer to a specific question. In philosophy and all the sciences, we ask questions and answer them in the knowledge that we can so inquire, that the matter in itself is in principle already clear to us, within the grasp of our reason; as the poet Otokar Březina once put it, the answers come before the questions.[4] Before we can put a question, we must know already what we are asking about and what ways of finding an answer are available to us. In philosophical 'intuition', on the other hand (and that is essentially the problem we are dealing with here), what matters is not to answer 'the perennial questions' but to raise a new question, or rather to make possible new modes of questioning. Plato, in posing the question of the Idea, was not giving a new answer to an old question but rather raising a new question. He discovered a new dimension of inquiry, the investigation concerning the overall character of being. The Idea was of course, in a sense, already there; it was contained in language, in every general linguistic expression and in every general meaning; but it had not been grasped, explicitly reflected upon, it was merely a self-evident milieu, not a problem – just as, analogously, an animal's instinctive action is no problem for it. With the Platonic beginnings, a wholly new principle was thus brought to light – living with things essential, making knowledge possible in the broadest sense, along with the idea of a reform of human affairs grounded on knowledge of them, this great, inspiring teleological idea of Western European civilisation which Husserl, too, ultimately made his own, and of which he appears to be the last great and, I believe, original and fully committed servant. But Husserl's endeavour cannot be identified with the Platonic doctrine of Ideas: Husserl's fundamental intuition, though also theoretical, is profoundly different from Plato's. Husserl starts from the Cartesian *cogito*; it is, however, characteristic that he interprets Descartes rather freely, lending him motifs that are not his own. (Josef Beneš, e.g., is therefore not unjustified in remarking, in his book on Descartes, that he "does not see Descartes' meditations on the line of development leading to transcendental philosophy"[5] – lines of development can be drawn fairly arbitrarily, and Husserl substantially availed himself of this tolerance.) Descartes' reasoning was guided by the motif of certainty, of reaching some one indubitable bit of being, without at the same time questioning the validity of the traditional ontological interpretation of this being as substance. Husserl, on the contrary, asks how certainty and uncertainty concerning the existent are in general possible; the overall character of being, and of our experience of it, becomes a problem, the philosopher pursuing with his revealing eye all the presuppositions, apperceptions and models which characterise the 'evidences' and self-evidences of our experience. In this process, he uses 'doubt' or 'suspension of belief' as a methodical means. Indubitable knowledge is not, for

[4] O. Březina, "Tajemné v umění" [The Mysterious in Art], *Rozhledy* 4 (1897), 337; recently reedited by P. Holman in O. Březina, *Eseje* [*Essays*], Olomouc: Votobia, 1996, 7.

[5] J. Beneš, *Descartesova metoda ve vědách a ve filosofii* [*Descartes' Method in the Sciences and in Philosophy*], Prague: Nákl. České akademie věd a umění, 1936, viii (Preface).

him, a goal in itself; the procedure is not intended to free from doubt, but rather to reveal. And what does it reveal? Subjectivity in its relation to the universe, the world as a function of subjectivity and subjectivity as the wellspring of the world. What does this mean? Husserl's philosophy should not be identified with standard subjective idealism as in Berkeley or Fichte. We must insist that phenomenology does not apodictically assert any version of *esse est percipi* (which, translated into phenomenological terms, would mean that objects are mere intersections of subjective intentionalities), nor does it necessarily incorporate the material world into the subjective in an unequivocally teleological manner (e.g., as the "material of our duty").[6] These are open questions in Husserl's transcendentalism, whose fundamental thesis is simply that the world, in its ultimate sense, can be understood solely as the work of transcendental individuals and individualities, asserting themselves in association with one another. It is a non-substantialist monadology; non-substantialist inasmuch as the transcendental individualities are self-creators, their being deeper than any substance in the sense of the enduring, invariable substratum of less enduring determinations.

Those who are incapable of giving the words 'origin', 'principle', 'explanation' another meaning than the one they have in our everyday thought-functions (just as Hippias, in Plato's dialogue, cannot think of taking the word 'beautiful' in any other sense than its general use to denote beautiful objects)[7] are necessarily blind to this particular mode of understanding the world. Yet, paradoxically as it may sound, the meaning of these terms in phenomenology is more original and deeper than in normal speech – albeit the system is incomplete and many problems remain unsolved. It is clear, e.g., that transcendental phenomenology cannot decide concrete scientific issues, such as the applicability of Einstein's theory or questions of the corpuscular character of matter, the essence of evolution, a unitary construction of history. Nonetheless, it brings valid subjects and impulses in all domains; linguists, e.g., know from Bühler's work[8] what the *Méditations cartésiennes* have meant for them, just as readers of Landgrebe's article in the last issue of this journal[9] now know the relevance of Husserl's way of tackling the problem of subjectivity for the question of the underlying foundations of the so-called sciences of the spirit, where he is close to Dilthey (Husserl mentioned this point too in

[6] J. G. Fichte, "Über den Grund unsers Glauben an eine göttliche Weltregierung," in *Gesamtsausgabe der Bayerischen Akademie der Wissenschaften*, Vol. I/5, ed. R. Lauth, Stuttgart: Frommann, 1977, 353; English: "On the Basis of Our Belief in a Divine Governance of the World" (1798), in *Introductions to the Wissenschaftslehre and Other Writings, 1797–1800*, ed. and trans. D. Breazeale, Indianapolis IN: Hackett, 1995, 150. *Trans*.

[7] *Hippias Major*, 287 C ff.

[8] K. Bühler, *Sprachtheorie. Die Darstellungsfunktion der Sprache*, Jena: Fischer, 1934. [English: *Theory of Language: The Representational Function of Language*, trans. D. F. Goodwin and A. Eschbach, Philadelphia: J. Benjamins, 2011.]

[9] L. Landgrebe, "Filosofie Viléma Diltheye" [The Philosophy of W. Dilthey], *Česká mysl* 32 (1936), no. 3–4: 138–45.

Prague, in his lecture for the Linguistic Circle).[10] If we add to this the importance of Husserl's pre-phenomenological struggle against psychologism and his renewal of 'ontology' in the traditional sense, a motif by no means abandoned in transcendental phenomenology but rather raised to a higher power and loaded with new and different questions (let us just recall that the struggle against psychologism led to its retreat all along the line, that anti-psychologism gained ground not only in logic but also in aesthetics, in the philosophy and psychology of religion, in law, in the philosophy of mathematics and the natural sciences – H. Weyl[11] and many others refer here to Husserl; the wealth of motifs taken from his work is well-nigh boundless), we get at least some idea of the universality of the scientific-philosophic interest associated with his venture. Husserl's is a philosophy which embraces all world problems through the motif of transcendental subjectivity. Transcendental subjectivity is the ground he means to penetrate, on which he thinks to discover fields left unreaped for lack of radicalism in his great predecessors. And since phenomenology pursues a task either missed or neglected by its predecessors, one can also write a historical introduction to it; such is the object of the volume under review.

Husserl begins his exposition with the statement that science is at present undergoing an acute crisis of its scientificity. The crisis first appears to the eye as a loss of the meaning of science for life; science has nothing to say to us about the difficulties and anxieties of our existence. It is, precisely, an 'objective', impartial science of pure facts; and purely fact-minded sciences make for purely fact-minded people. In contrast with this emasculated science, how powerful appears the *idea* of science conceived by Renaissance and post-Renaissance philosophy, which set out to freely shape the world through the autonomous understanding of pure reason! Here, all disciplines are but the parts of one whole, formed by a single encompassing reason. This great conception was the source of the energy and enthusiasm which so irresistibly spread to wider and wider circles in the eighteenth century; a greater contrast than between the Enlightenment and the present day is hardly possible. Husserl wants now to renew the idea of modern philosophy and to attempt a revival of the Enlightenment, asking anew the great questions that lie at the basis of metaphysics, the *philosophia perennis*.

Enlightenment and modern science failed because they were unable to realise their ideal; the scientific ideal was left to disintegrate from within, as attested by modern humanity's loss of faith in universal philosophy as its guide, i.e., basically, the breakdown of faith in reason, in an 'absolute' reason giving 'meaning' to the

[10] On 18 November 1935 Husserl lectured to the Prague Linguistic Circle at the invitation of Roman Jakobson on *Die Phänomenologie der Sprache*; such at least is the title mentioned in Jakobson's review for the journal *Slovo a slovesnost* 2 (1936), no. 1, 64. Patočka, in the above-mentioned article "Edmund Husserl in Prague," cites the same lecture under the title "O filosofii a duchovědách" [On Philosophy and the Sciences of the Spirit].

[11] Cf. H. Weyl, *Philosophie der Mathematik und Naturwissenschaft*, Munich: Oldenbourg, 1927, 85–87. [English: *Philosophy of Mathematics and Natural Science*, trans. O. Helmer, Princeton: Princeton University Press, 1949, 62–63.]

world, to history, to mankind and its freedom. Modern philosophy became a casualty of the struggle for human meaning which, from the very beginnings of Greek philosophy, runs through history as its rational entelechy; philosophy is the historical movement of manifestation of the universal reason 'innate' in mankind as such. If philosophy is to be something more than a mere particular feature of a certain cultural circle, the struggle for it in *its freedom* will have to be rekindled again and again until it ends in success – any other mode of relation between the philosopher and his problem would mean shunning the task to which he is called and in which he is a functionary of humanity. The philosopher cannot give up the idea which forms life by its own power, scientificity which forces with apodictic certainty the will to go its way – such is the existential pathos of philosophy, as opposed to all the pathetic mysticisms and irrationalisms of the present day. This means going back to the great original idea of science, going back especially to the sources of its successes but also of the severe contradictions impairing it, which we shall have to try to eliminate. This is where the analysis of the idea of modern science and its fundamental antinomy begins.

At the dawn of the modern age, mathematics take on a new, universal significance, alien to Greek mathematics. Science becomes infinite, entrusted with an infinite task, while at the same time held together by a unitary bond of rational deducibility. Rather than individual mathematical theories, what comes to the fore is one general formal mathematics. And this process, once begun, leads straight to another stage of the unification of science, i.e., Galileo's mathematisation of nature. The meaning of this mathematisation is the object of a separate phenomenological study focusing on its presuppositions, which is inserted here. This text is unprecedented in the whole of Husserl's work, proof that his creative force has continued to bear remarkable fruit up to the latest day.

The mathematisation of nature presupposes that the geometrically formulated properties of natural bodies have intersubjective significance, that they are, therefore, *objective* in the proper sense of the word, as opposed to those aspects of our experience of the world which we know already from everyday experience to be relative to a person or a standpoint. What lies in this truth, tacitly assumed in the process of mathematisation?

First and foremost: the world of shapes of our naive experience is by no means a world of purely geometrical shapes. (This truth needs to be recalled to mind, since Plato is nearly the only important philosopher before Husserl to have been deeply preoccupied with it.) Naive shapes are not a realisation of geometrical forms; Plato already distinguished the former from the latter by their oscillations and inexactness. (Of course, they do imply a certain regularity, conspicuous even to those who have no idea of geometry and exact thought; the sphere, the cube, etc., are typical rough shapes whose regularity lies rather in intuition itself than in the geometrical properties of things. In Greek philosophy we still find this original, almost sensual feeling of shape in action – the circle as a form 'without end', uniformly curved throughout, the 'straight' line as possessing end-points. We find this same sense of shape used, e.g., in the descriptive sciences, botany, zoology, where the original distinction between organic and inorganic shapes is also frequently applied.) The

application of geometry to the world of our everyday experience thus implies an underlying process of exactification, an approach to exactness which has its practical origin in the measurements used even in the most primitive conditions, just as the whole domain of quantity is originally founded already in our elementary life, in the sphere of space and causality; the boundary of inexactness is continually pushed back until there takes place a passage to the limit – to the idea of absolute quantitative identity, which first founds geometry in the scientific sense: an achievement which is not a piece of the history of this science, is not associated with the name of its inventor, as are certain famous theorems, and yet is more important, since it must be understood by each and all before even beginning to practise the science as such. Euclid's axiom of equality presupposes that equals are given, and hence it presupposes the passage to the limit. The exact apprehension and elaboration of the relationships of elementary figures and the construction of all possible exact shapes – this is geometry. The idea of the mathematisation, of the mathematical objectification of the universe is implicit in geometry as a science at once ideal and yet related to our concrete life-space. This idea Galileo amplifies in an extraordinary way.

With Galileo, the idea of passing over into a limit of exactness affects the whole sphere of objective causality. Things of everyday experience have, so to say, their 'habits', not only a typical look but also typical behaviour. (The association of a typical aspect and typical behaviour under the single concept of form – *eidos* – is in fact already the work of Greek philosophy.) And this typical behaviour obtains universally, for all things, so that the world, even in its pre-scientific form, cannot be imagined without the overall connecting network of universal causal unity. Thus, the idea of universal causality is not yet in itself an approach to exactness. Exactness is initially introduced by geometry, which first makes of the spatio-temporal world a universal totality of objective, univocally determinable ideal objectivities. Geometry shows further that the exact knowledge of relationships between spatial figures makes possible a completely new kind of prediction: one can *calculate* the relationships non-accessible to direct measurement on the basis on those that are accessible. This then raises the question whether the same does not obtain necessarily for the entire concrete world. Cannot all rough predicting be replaced with pure calculation? The difficulty is that once we introduce geometrical exactness into natural shapes, they break down into pure forms and intuitive 'filling' (secondary qualities), and the filling, which is of course also primitively given in certain qualitative gradations (especially intensities), is not directly accessible to measurement. This then leads to the question of indirect mathematisation. For the fillings, the 'plena', we have only one universal form of the world, only one (intuitive) geometry; all we can do is to univocally correlate them to certain directly mathematised spatio-temporal configurations, in such a way that each qualitative event acquires a mathematical index. The application of mathematics means already an idealisation of the *plena*, i.e., a projection into the infinity of space and time, exceeding all possibilities of intuition; now there is added to this the idealisation of causality, universal exact causality. All the rest is a matter of

invention, which is "a mixture of instinct and method"[12]: the discovery of ever-new methods of measurement and new forms of mathematical dependence. Galileo himself applied his anticipations to processes of our most common experience and actually found exact correlations which could be expressed in formulae.

Galileo's exactification of natural causality is, of course, a hypothesis, and remains such indefinitely; this is a character peculiar to natural science – to be unendingly hypothetical and unendingly verified. 'True nature' is correlative to an infinite historical process of approximation. *In concreto* the scientist ignores this; he throws himself with all his passion of knowledge into the task, now made possible, of outlining the regularities of our life-world, i.e., onto formulae. In the course of time, the formulae undergo yet another profound change, which leads to enormous progress in the special sciences but, philosophically, worsens the unclarity. This change is the arithmetisation of geometry, which goes along with the emptying of its meaning: science abstracts from extension, and geometrical forms, mathematical expressions acquire a new, 'symbolic' meaning. This process reaches its consummation in a universal 'formalisation' that leads to 'pure analysis', a 'theory of manifolds', a 'logistic' whose ultimate sense is to construct the formal-logical idea of a world-in-general (in definite manifolds). Mathematics becomes more and more a simple 'technique', an art of carrying out operations that achieve results as in a game, while all material meaning, even that of the purely formal ontology which lies at the basis of the *mathesis universalis*, is evacuated. And as both experimental and mathematical physicists aim, in their efforts, at ideal poles of exact dependencies, all the discoveries of physics are in fact discoveries in the sphere of a world of formulae coordinated with nature. The actual fundament of the whole process of idealisation, i.e., the non-idealised nature of the naive world of everyday experience, is thereby forgotten: this is the true world which, far from taking its meaning from formulae whose function is exclusively that of an exactifying outline of anticipation, first gives the formulae their meaning. This world is dressed up by natural science, especially physics, in a garb of ideas (we could almost say, with Bergson, a *vêtement de confection*)[13] which then makes us take for true being what is merely a method. Reason here worked instinctively, without rational clarity about its own accomplishments. Galileo is a genius both of discovery and concealment. We stand, to this day, in his ambivalence (worsened by the formalising of geometry into analysis); the so-called 'crisis of the concept of causality' makes no difference, since the idea of mathematical nature in itself remains. This situation has resulted in innumerable obscurities and problems, in particular the problem of the relation between the mathematical *a priori* and natural science, between pure and applied mathematics, *a priori* and *a posteriori*, mathematical and real existence, and many

[12] E. Husserl, *Die Krisis der europäischen Wissenschaften und die transzendentale Philosophie*, Husserliana VI, ed. W. Biemel, The Hague: M. Nijhoff, 1954, 39. English: *The Crisis of European Sciences and Transcendental Phenomenology*, trans. D. Carr, Evanston IL: Northwestern University Press, 1970, 40. *Trans.*

[13] H. Bergson, *Matière et mémoire*, Paris: Alcan, 1908, 270. (English: *Matter and Memory*, trans. N. M. Paul and W. S. Palmer, Mineola NY: Dover, 2004, 321.) *Trans.*

more stemming from formalisation – all due to the hypostatising of mathematical nature. The idea of natural science has thus fallen into confusion and crisis; natural scientists naively believe they can overcome the crisis by turning away from any 'metaphysics' that might claim to meddle in their affairs; they forget that the direction of inquiry necessary to achieve clarity here is quite the opposite of that implemented in physics. But philosophers too have let the new natural science lead them astray from their task, and this from the very beginning of modern philosophy, when they envisaged the rationality of the world *more geometrico*.

Here Husserl brings to a close his critical reflection on the crisis of scientificity in modern natural science and turns to his second major pole of interest, the world and sciences of the spirit. We shall give a more succinct account of these considerations, many aspects of which are already known from other publications. The creation of a unified natural science entailed a splitting of the world, familiar to us from the Cartesian dualism: the élan of the unified physical science, which Hobbes already introduced into the sciences of the spirit via his physicalistic psychology, was stymied by the problem of subjectivity. Physicalistic psychology led straight to skepticism, the final conclusions of which were drawn by Hume. Yet Descartes's *cogito* already sets a problem that physicalism (taking the word, not in the sense used by contemporary proponents of the 'Vienna Circle', but rather as referring to the universal unified science which apprehends the world *more geometrico*) cannot handle. The birth of an epistemologically oriented philosophy confirms that this is indeed the case, inaugurating the turn which gives its character to modern philosophy: from objectivism, which inquires after the 'objective truth' of the world on the ground of which it moves self-evidently, to transcendentalism, which inquires into the meaning of the being of the world and regards this meaning as a 'subjective formation' – subjectivity as primary by nature. The immanent meaning of this whole turn is transcendental phenomenology, in which Husserl sees the final form of psychology, epistemology and metaphysics all at once. Here, starting once again from the beginning, Husserl inserts a reflection on Descartes as the philosophical forefather of the two fundamental ideas of the modern age, transcendentalism as well as geometrical objectivism. As in the *Méditations cartésiennes*, he explains once again the significance of methodical skepticism by means of the *epochē*, elucidating in greater detail how Descartes went wrong: Descartes, before performing his *epochē*, was already dominated by the Galilean idea of the rationally ideal bodily world, this idea was the goal he strove to attain in absolute evidence; the *epochē* is here misused as means to an end, while the philosopher should carry it out seriously and remain within it. (Husserl has more than once had the occasion to show summarily that this does not entail solipsism.) Descartes nonetheless did present in his *Meditations* at least a fundamental piece of psychology, discovering also, especially, the profound philosophical significance of intentionality (in this assessment of Descartes as a psychologist, Husserl finds himself in agreement, in particular, with the Brentano school; Brentano himself was the first to call attention to the significance of intentionality in Descartes; as for the fact that Descartes

became one of the fathers of 'analytical' psychology, that he was by no means an 'understanding' psychologist in Dilthey's sense, we see this too as linked with his objectivism – intentionality itself, which appears in him to be a mere remnant of the life-significance dominant, e.g., in the medieval doctrine of the soul, is actually, as Husserl remarks, a concept he hardly developed),[14] which Locke unfortunately did not take up in his so influential *Essay Concerning Human Understanding*, no more than the transcendental motif of the *cogito*; this is what brought him to his particular agnosticism, limiting the pretensions of the modern scientific ideal; Berkeley's sensualist critique then had a dissolving effect on the conceptuality of rational science, and finally Hume, one of the greatest modern thinkers in Husserl's eyes (more important than Kant, a point on which Husserl and Masaryk strangely meet), declared objective knowledge bankrupt. Objectivism was shaken – this is Hume's genuine philosophical motif. His philosophical ethos was, however, not commensurate with his skills, and he contented himself with the comfortable role of an academic skeptic, eschewing all 'abysmal' problems. Kant, on the contrary, started from the abyss opened up by objectivism between pure mathematics and natural science, and showed nature to be the work of an unconsciously functioning reason, the conscious production of which is mathematics and natural science constituted with its help. Thus Kant in his own way, remaining within the tradition of rationalism, shook objectivism and rediscovered the transcendental motif lost since Descartes. Husserl concludes the recently published text with these preliminary remarks on Kant, with whom he will deal more extensively in future parts of his work.

Before moving on to critical comments – we shall present here only a select few, given the difficulty of the subject matter and the necessity, for some objections, to go into details with which the reader cannot be supposed to be familiar – we would like to call attention to one misunderstanding that must be nipped in the bud, especially in the Czech milieu. It has become a commonplace among Czechs, more particularly under the influence of Masaryk's essay *Modern Man and Religion*,[15] to regard subjectively oriented philosophy as related to 'titanism', to the decadent megalomania of modern man, deprived of firm certainties. Masaryk holds Kant to be a skeptic. I have already had the occasion to explain (in my article 'Masaryk's and Husserl's Conception of the Spiritual Crisis of European Humanity')[16] that Masaryk (submitting to the influence of his times) did not take the problem of subjectivism at all seriously; when all is said and done, his objections have to do only with Kant's inconsistencies, with the role of the objectivist dross in

[14] Cf. E. Husserl, *Die Krisis der europäischen Wissenschaften und die transzendentale Phänomenologie*, §§19–20.

[15] T. G. Masaryk, *Moderní člověk a náboženství*, ed. V. K. Škrach, Prague: Laichter, 1934; reedited in *Spisy T. G. Masaryka*, Vol. 8, Prague: Ústav T. G. Masaryka, 2000. [See English translation by A. Bibza and V. Beneš, London: G. Allen & Unwin, 1938.]

[16] J. Patočka, "Masarykovo a Husserlovo pojetí duševní krise evropského lidstva," *Kvart* 3 (1936): 91–102; reedited in *Sebrané spisy*, Vol. 12, 21–33. [See English translation by E. Kohák in *Jan Patočka. Philosophy and Selected Writings*, Chicago: University of Chicago Press, 1989, 145–56.]

his thought, and he regards Kant's subjective world as not essentially different from an "illusion" (*Hirngespinst*). This whole argumentation is clearly based on a *quid pro quo* – that much should be stressed against all preconceived notions. The word 'objective' has in fact two different meanings: that which is accessible to all possible subjects – objective truth, and that which is independent of any subject whatever – objective being. Subjectivist philosophy by no means precludes absolute objectivism of truth, on the contrary, it is a better guarantee for it than the objectivist variety which, as history shows, leads either to skeptical positivism or to fancy. As to the difference between reality and illusion, it is *given*, demonstrable in experience, and, therefore, it too, subjectively analysable and ultimately definable therefrom. To berate subjectivism and equate it with titanism, decadence, etc., is simply unphilosophical, unless all these headings cover a serious philosopheme, capable of fundamentally refuting 'subjectivism'; in actual fact, the dividing line between the absolute and the finite spirit was never erased in the subjectivist philosophies of a Fichte, a Schelling, or a Hegel – man was never deified here, not at least as an individual; and when it comes to deifying the finite, objectivists are more than a match for subjectivists – let us only think of Comte, Proudhon, Stirner, Nietzsche. Above all, let us not charge Husserl with representing decadent subjectivism; let us seek to think through his ideas, rather than taking an 'existential' stance.

Now what about Husserl's theses themselves? Historians will surely find much to criticise: Husserl's fresco includes precise and grandiose visions as well as fogginess and lack of accuracy – his Galileo is certainly not the historical Galileo, his Descartes not the real Descartes, though even here his views are always deep; to wit, his agreeing with – and surpassing of – Gilson[17] in seeing Descartes as possessed by the spirit of modern physics; to wit, the broad-mindedness, though sketchiness, of the lineage he traces from the Renaissance to the seventeenth century and through to the Enlightenment. At the bottom of all these great philosophical-historical insights lies, of course, Husserl's rationalism. Husserl is perhaps the last principled rationalist among outstanding European philosophers; that is to say, he views autonomous human reason and its functionary – philosophy as the immanent meaning of Western European civilisation and, through the irreversible process of Europeanisation of the earth, as the immanent meaning of humanity in general. This teleology is part of the confession of a great philosopher – in actual fact, we philosophers should never think otherwise, the slightest counter-argument smacks already of skepticism; but this is perhaps precisely why it is so difficult and painful to practise philosophy today, because we are constantly obliged to ask whether reason truly is, whether it can at all be the immanent *telos* of humanity. Europe is rationalistic, there is no doubt about that; but is its rationalism a rationalism of means or of ends? Considering that Europe has been Christian for nearly 2,000 years, it would seem to be rather a rationalism of means; for if there is

[17] Cf. É. Gilson, *Études sur le rôle de la pensée médiévale dans la formation du système cartésien*, Paris: Vrin, 1930. *Trans*.

reason in religion, it is decidedly something more than the mere theoretical *logos* sought by science, seeking to control reality, and by philosophy, striving to penetrate its essence. Religion itself can be part of the process of rationalisation and even contribute to it, but it also contains an atheoretical core which philosophers, with their interpretations, will apparently always misrepresent, just as Hegel presented the exact opposite of Christianity in interpreting it as a preliminary stage of his own philosophy. We prefer therefore to take Husserl's exposition, not primarily as a philosophy of history, but rather as a contribution to human liberation, as a piece of human freedom – reason as a task that man is free to take hold of and that raises him heaven-high if he succeeds in actively mastering its inner peril. This interpretation is confirmed by the whole (so to say) existential character of Husserl's statements; their pathos attests that they are no mere stating of facts but rather a *summons* in the garb of statements of fact, a call meant to change man in his inward make-up; insofar Husserl would be right, too, in stressing, as he has done more than once in answer to various objections, that existential problems do indeed exist for him and are solved in his philosophy (albeit not universally and not always thematically in the philosophy he has himself realised).

May we add yet a few more remarks. Husserl traces the development of the idea of modern science as if no theological issues came here into play – this is related to our previous remark that Europe is Christianity, rather than rationalism – and as if there were no continuity with earlier ontological philosophy. Here too, historians will surely find matter for disapproval. Modern science and philosophy did not originate directly from the process of progressive idealisation of the life-world as depicted by Husserl, Husserl's description is itself an idealisation. The very idea of substituting mathematics (a 'formal' ontology in Husserl's sense) for ontology was part and parcel of ontological thought, though the transposition took place in fact in the sphere of physics, and hence athematically.

One last word before I conclude. Does the world of our natural life (*unsere Lebenswelt*), into which theory has not yet brought its exactness, differ from the theoretical world only by this lack of exactness? Or is 'inexactness' merely one of several 'moments' which, taken together, make up the general character of being in this world? In that case, the passage from surveying to geometry would imply, in addition, connecting links which Husserl does not mention, links which mark in general the movement from praxis to theory.

Husserl's work has, once again, surprised our expectations. We can imagine, accordingly, the rich fountain of philosophical reflection to be found in his concrete analyses still in manuscript form! The publication of these manuscripts has been in preparation for some time. It rests with the philosophical public to contribute to hasten the undertaking (it is to the credit of the Czechoslovakian philosophic community to have been the first to seriously concern itself with it) and to prove by its interest that the idea of forming life on a theoretical basis – this idea so forcefully stressed by T. G. Masaryk, F. X. Šalda, Edvard Beneš – is still alive amongst us.

Part II
Patočka's Phenomenological Philosophy

Jan Patočka: From the Concept of Evidence to the Natural World and Beyond

Ľubica Učník

Abstract In this paper, I call attention to certain themes that are present in Patočka's PhD dissertation of 1931, *The Concept of Evidence and its Significance for Knowledge* [*Pojem Evidence a Jeho Význam pro Noetiku*]; in which he outlines a historical account of the concept of evidence by considering the methodology of modern science based on modern epistemology as inaugurated by René Descartes. For Patočka, Husserl does not offer a finished philosophy but rather provides the best possible philosophical attempt so far at answering the question of evidence inherited from modern epistemology. I argue that certain concerns that are present in his PhD dissertation never leave Patočka's thinking. In Patočka's view, we need to rethink phenomenology, not abandon it.

Keywords History of thinking • Concept of evidence • Descartes • Rationalism • Empiricism • Cognition • Scientific reasoning • Truth • Meaning constitution

> 'Let us not doubt the truth of sense experience,' says [Saint Augustine], 'because we would not be able to know number, magnitude (size) and givenness of things if we did not perceive them with our senses' (Patočka 2008 [1931]: 63).[1]

In the school year 1928–1929, Jan Patočka received a graduate scholarship to study in Paris. In 1929, he attended Edmund Husserl's *Paris Lectures* (Husserl 1998).[2] At the time, Patočka was already familiar with Husserl's work, but the lecture made a lasting impression on him.[3] Patočka's fight against positivism in philosophy and science was invigorated by Husserl's lecture. Husserl's phenomenology, his critique of positive science as "science lost in the world" (Husserl 1998:

[1] "'*Budiž nás vzdálena pochybnost o pravdě smyslové zkušenosti,' praví, 'neznali bychom číslo, velikost a určenost věcí, kdybychom je nevnímali smysly*'". Unless indicated, translations are my own.

[2] Later expanded into *Cartesian Meditations* (Husserl 1960).

[3] At the lecture, his teacher Alexandre Koyré introduced Patočka to Husserl (Blecha 1997: 19–21).

Ľ. Učník (✉)
Philosophy, School of Arts, Murdoch University, Perth, Australia
e-mail: l.ucnik@murdoch.edu.au

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39), which forgets its own foundation and relies on the unreflected "naivetés of a higher order" (Husserl 1998: 36), and his call to self-responsibility, (Husserl 1998: 4) resonated with Patočka's thinking and deeply influenced him (see also Tholt 2003: 20ff).

In 1933, equipped with a Humboldt scholarship, Patočka studied in Berlin, attending lectures by Nicolai Hartmann, Werner Jaeger and Jacob Klein; only to move to Freiburg im Breisgau, to study with Husserl. In a letter dated 12 May 1933, Husserl responded to Patočka's request to study with him: "If you really want to learn understanding and if you do not bring with yourself ready-made philosophical convictions (those intellectual blinkers grown on eyes), then you are warmly welcome. I am happy to help and entrust you to the care of my assistant Eugen Fink" (Blecha 1997: 25; Schuhmann 1987: 34). Patočka and Fink formed a lifelong friendship. Moreover, Fink's critical stance towards Husserl's and Heidegger's phenomenology was important for Patočka's later thinking (Blecha 1997: 27–30). During his Freiburg visit, Patočka also attended Heidegger's seminars (see Blecha 1997: 26–27; Tholt 2003: 25ff).

It is in this historical context that I propose to revisit Patočka's 1931 PhD dissertation, *The Concept of Evidence and its Significance for Noetics* (*Pojem Evidence a Jeho Význam pro Noetiku*) (Patočka 2008 [1931]).[4] Patočka's 1933 encounter with Husserl was also an encounter with Klein and Fink, who both encouraged him to attend Heidegger's seminars. These intellectual contacts took place after Patočka wrote his *The Concept of Evidence*. Hence, revisiting his PhD dissertation may provide us with a new perspective from which to assess Patočka's thinking, prior to his conversations with Husserl and Fink and his encounter with Heidegger. Given that, for Patočka, the history of thinking is the *conditio sine qua non* of thinking *per se*, I suggest that Patočka's attention to the historical perspective might be one of the ways to assess his early writing.

My aim, then, is to highlight certain themes that are present in Patočka's PhD dissertation. I do not claim that this is the only way to interpret Patočka's dissertation; and I will not present a sustained interpretation of its content. However, I will argue that certain concerns that are present in the dissertation never leave Patočka's thinking. Moreover, there is a tension between his overall epistemological focus, based on cognition only, and his concern with beings, which exceeds his purported concern with evidence and knowing.[5]

In *The Concept of Evidence*, Patočka offers a historical account of the concept of evidence, by considering the methodology of modern science based on modern epistemology as inaugurated by René Descartes. His concern is how we can navigate between the Scylla of empirical evidence,[6] which is by definition changing, and the Charybdis of the rationalists' immutable, *a priori* ideas, which are

[4] From now on referred to as '*The Concept of Evidence*'.

[5] James Mensch points to similar tension in Husserl's *Logical Investigations* (Mensch 1981).

[6] See Part II of *The Concept of Evidence* on empirical genesis (Patočka 2008 [1931]: 87–100).

supposedly innate.[7] To offer a different approach to the concept of evidence, Patočka examines both rationalist and empiricist systems. He points out that rationalists dispense with the idea of the external world and construct it through "method"; while empiricists – dispensing with the external world as well – place the external world in the human mind on the model of *spatium*, where ideas are almost literally taken as mental 'pictures' of external things (Patočka 2008 [1931]: 86). Following from this unexamined assumption, we supposedly compose complex ideas from simple ideas (Patočka 2008 [1931]: 88).[8] Who or what 'performs' this composition had already been questioned by Leibniz (1934 [1765]). The historical account that Patočka presents points to the importance of the concept of evidence, which is equally pertinent to both positions and highlights the problem at the heart of modern epistemology.

Rationalism and empiricism are the outcome of Descartes's search for the certainty of knowledge and the self-sustained absolute evidence that does not need any other thing for its existence ["*nulla re indigeat ad existendum*"] (Patočka 2008 [1931]: 76).[9] In Descartes, of course, only God fulfils this condition; because God creates everything, hence he does not need anything else for his being. However, *per analogiam*, Descartes uses the being of God to argue that, since *res cogitans* and *res extensa* need nothing except God to exist, in this derivative sense, these two substances into which he splits the world are not only self-sufficient, but also self-subsistent (Descartes 1985: I, 52, 25).

Rationalism takes over the notion of 'absolute evidence'; while, by contrast, empiricists question the rationalist idea of absolute evidence, arguing instead that evidence must come from experience. Yet, since empiricists accept the Cartesian split between the world and thinking, there remains the problem of accounting for experience. In what way do we experience things in the world, if the world is independent from our thinking? Patočka asks: given the history of modern epistemology, how can we account for human knowledge; how can we jump over the crevasse between the world and thinking created by tradition? To reconsider modern epistemology, Patočka starts with cognition. How can we know that our thinking is about the world; how can we know the meaningful whole and the truth that is its correlate? How can we think about the evidence that we need in order to justify the meaning constitution of, for example, a triangle? He suggests that this "thought-whole" of a triangle is "the object of cognition", therefore it cannot be "independent from me; it is not inaccessible to me" (Patočka 2008 [1931]: 20).

However, is knowing a triangle enough to account for the being of a triangle? How do we know that the triangle about which we think *is* in reality? Is it possible

[7] See Part II of *The Concept of Evidence* on the genesis of rationalism (Patočka 2008 [1931]: 76–86).

[8] cf. Locke, esp. Locke 1976 [1690]: Book II, Chapter XXV, 1, 2, 5 [150–152].

[9] "*co žádnou věc nepotřebuje ke své existenci*" (Editor's note in Patočka 2008 [1931]: note 108, 176). In English translation: "*By substance* we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence" (Descartes 1985: I, 51, 24 [210], italics in original).

to infer from knowing the triangle that triangles exist? Patočka does not ask these questions; he asks, instead, how we can address "the question concerning what *is*" (Patočka 2008 [1931]: 28, italics in original).

We can formulate the problem differently: is Patočka inquiring about the being of beings or is he searching for evidence concerning our ways of knowing? Does Patočka ask a question about the being of a thing or a state of affairs that is in the world, or does he ask how he can know and give evidence for his knowing about a thing or a state of affairs? In other words, as Kant noted, existence is not a real predicate; and to simplify, something must already exist if we want to speak about it (Kant 1996: A 598, B 626). So, in this context, what does 'the question concerning what *is*' relate to? It might be argued that two different inquiries can proceed from this question, depending on the starting point: epistemology or ontology.

In *The Concept of Evidence*, both inquiries (ontological and epistemological) are subsumed under cognition: knowing is thinking that aims at a formation of meaning by providing reasons that contribute to the fullness of meaning, for the clarity of a 'thought-whole'. Thinking is *cogitatio* and reasons – in the form of thoughts – are *cogitata*. The chain of reasoning constitutes evidence. Each reason is built on another, tied together from the antecedent through to the consequent; thereby constituting the full sense of a thing or a state of affairs (Patočka 2008 [1931]: 15). When we look at a triangle, we simply cannot know that the sum of its inside angles is 180°. For us to grasp the meaning of a triangle, we must know what a triangle is, what angles are and why the sum of them is 180°. We need reasons to understand it. In the case of mathematical knowledge, we need a specific, artificial method supplied by mathematics (Patočka 2008 [1931]: 62). Only then can we grasp the whole meaning of a triangle. To develop the cognition of the meaningful whole, we seek the clearest and the most cardinal reasons that we can provide among the never-ending stream of consequences. The idea expressed in this whole is truth (Patočka 2008 [1931]: 15). The question remains, is this an ideal or a real triangle? In the domain of scientific cognition, which Patočka considers, how can we think this difference?

By contrast, common sense (*sensus communis*) is qualitative and not quantitative. Although quantitative thinking – in other words, scientific knowledge – is based on our original, qualitative sense, our everyday experience is not quantitative (Patočka 2008 [1931]: 66). We know that when we throw a rock against a window, it is very likely that the window will break. In this sense, we experience a connection between our action and the broken window: we *see* the regularity of our acting; we also *see* the regularity of certain events we encounter in the world. We know, in terms of common sense, that the sun will come up every morning and set in the evening; leaves will fall and birds will migrate in the autumn. This regularity (or *typicality*, as Husserl calls it) is a part of our living (Husserl 1970: §9b, 31). However, this acceptance of the typical cause and effect that we experience is not the same as the causality that science must presuppose for its own investigations of nature. We should not conflate the regularity we experience in our everyday living with the idea of perfect causality in the domain of science. These are different ideas (Patočka 2008 [1931]: 69).

As Patočka notes, David Hume provides the most influential critique of the scientific idea of causality. Following his predecessors, Hume explains the "category of causality" psychologically, on the model of ideas that influence our mind through experience (Patočka 2008 [1931]: 69). Ideas are relational, explained on the models of spatiality and causality. These relations occur either between thoughts themselves in the mind, or between worldly beings and the mind of the knowing subject. Consequently, because Hume accepts an empirical understanding of consciousness based on the model of spatiality (Patočka 2008 [1931]: 88), he discredits "direct knowing [*noetiku*]" (Patočka 2008 [1931]: 69), as well as causality. He dismisses rather than questions the model that he inherited. Hume, therefore, denies both the modern scientific idea of perfect causality and the everyday regularity of our experience, because he does not distinguish between them.

The problem of the connection between the world and our thinking is not endemic to empiricism only. As already noted, it starts with Descartes and his search for certainty of knowledge, which he supposedly achieves by splitting the world into *res cogitans* and *res extensa*. Evidence becomes the measure of truth based on *cogito sum*; thereby instituting the separation of a being that is in the world from the knowing subject (Patočka 2008 [1931]: 78). The connection between knowing and being becomes the "riddle of transcendence" (Husserl 1999: 45) or "the *enigma of all enigmas*", as Husserl expresses it (Husserl 1970: §5, 13, italics in original). Since the connection between things in the world and the mind is explained through causality, truth is explained as "*adequatio intellectus et rei* [the correspondence of a thing to the intellect]", which, according to Patočka, is pure myth. It is impossible to explain knowledge on this model. Patočka points out that we have no access to "absolute being" that we can use as evidence. We can only use "a being that shows itself", thereby letting us "know it" (Patočka 2008 [1931]: 15).

One may note here that the questions of being and knowing are interrelated in this instance. If something appears to me, then that something must have an independent being from me. Yet, it seems that, for Patočka, this manifestation is immanent: in other words, in our thinking. It is this showing of a being that Patočka refers to as evidence. Patočka explains that "a being for me" is limited by "how and as long as it shows itself". Therefore, "an outside being becomes an 'inside' being; the meaning of the existence of a being coincides with a being for me" (Patočka 2008 [1931]: 16). It follows then, that truth is not the correspondence of a being in the world and intellect, but is the idea of a thought-whole constituted through knowing, because the "truth of the subjectified being is necessarily the idea of fulfilled sense [thought-whole]" (Patočka 2008 [1931]: 16).[10] Yet, the tension does not disappear. How does the outside being become the inside being for me?

One answer could be pre-knowledge. If Patočka's 'pre-knowledge' is similar to Husserl's idea of pre-predicative thinking, then the connection between the world and thinking might be explained by our pre-knowledge of the *Lebenswelt*. However, this does not seem to be the case. According to Patočka, the idea of truthful

[10] "*subjektivací jsoucna se tudíž pravda stává nutně. . .ideou myšlenkového celku*".

knowing encompasses the cognition of manifestation, as well as the meaning of the 'thought-whole'. Consistency defines the character of knowing, which aims at the cognition of the meaningful whole. This fulfilled sense of the whole means that the constitution of the world is formed in stages, where each becomes the reason for the next (Patočka 2008 [1931]: 17). Meaning constitution begins with the intuition of the whole. The entire uncovering (*invence*) in its essence is nothing more than an attempt to reach new meaningful constitutions. Uncovering is the projecting (*rozvrhování*) of truth. Abstract thinking is not the only cognition that aims toward the fulfilled meaningful whole: the formation of wholes happens in connection with intuition (Patočka 2008 [1931]: 17). Perhaps we might recall Patočka's description of "the instance of categorial intuition" in *An Introduction to Husserl's Phenomenology*, "which is a correlate of spontaneous, free mental activities in which objective formations common to diverse real mental processes…'originate'" (Patočka 1996: 71). In science, we do not have finished 'objective formations'. Science is a way towards newer and newer configurations; newer and newer syntheses in the sphere of knowing (Patočka 2008 [1931]: 17). In this connection, Patočka tries to unpack what 'pre-knowledge' is (Patočka 2008 [1931]: 21–23).

One explanation is that pre-knowledge is a state of thinking in which details become subsumed under the unclear intuition of the whole (Patočka 2008 [1931]: 19). In other words, we have an intuition of something, but instead of progressing, as with clear conceptual knowledge, from the *cogitatum* to the *cogitatum*, forming the meaningful whole, this whole is somehow already here in my thinking, but I cannot think it clearly. Citing Dostoyevsky's reflection on the clear moment of consciousness in which the soul becomes prophetic, Patočka suggests that this tenebrous whole guides us in those prophetic moments (Patočka 2008 [1931]: 19). Patočka's focus is on scientific thinking when he suggests that the scientist must at some point confront the feeling of something that he cannot as yet express. Citing E. Le Roy, he writes that pre-knowledge is a movement of thinking, away from unconceptualised certainty, which one is unable to put into words or even think (Patočka 2008 [1931]: 22). This pre-knowledge might lead the scientist towards a change in thinking; towards a different understanding and truth. "In those twilight and dreamy regions, certainty is born and evidence is sought".[11] An inkling of truth brought about by pre-knowledge leads a scientist on the road to discovery: as Patočka notes, the inventor follows his pre-knowledge to change the present state of science. However, the inventor is not enough; the systematiser must accompany him. The systematiser conceptualises the shift in knowledge, constructing a new methodological structure. The paradigmatic example of the inventor is Galileo; the systematiser is Descartes (Patočka 2008 [1931]: 24–25).

In 1933, Patočka reflected on Descartes and Galileo again in his 'Afterword' to Descartes's *A Discourse on Method*. He explains that Galileo and Descartes ended the crisis of scholastic Aristotelianism, lasting for 300 years. While Galileo's work

[11] "E. Le Roy, *Sur la logique de l'invention*, in: *Revue de métaphysique et de morale* 13 (1905), str. 196" (Patočka 2008 [1931]: note 21, 23).

changed natural science only, "Descartes built a new metaphysical system". Here Patočka notes that the Cartesian transformation of thinking is hard to gauge, because the "revolution, launched by Descartes, was successful in some respects all too perfectly" (Patočka 1992 [1933]: 65). The Cartesian conception of the world led to a rupture in our understanding of the world: between the world of our living and its scientific construct. Now, Patočka thinks this split differently. It is no longer only the abyss between our thinking and the world. He extends it in a form he is to elaborate in more detail in his habilitation, *The Natural World as a Philosophical Problem* (*Přirozený Svět Jako Filosofický Problém*) (Patočka 2008 [1936]). In the 'Afterword' to Descartes, Patočka points out that "on the one side, we are spiritual beings, primarily closed within ourselves, on the other side, the world of objects is understood purely rationally and geometrically, without qualities, without inner forces" (Patočka 1992 [1933]: 67). This fractured world is the problem of present-day science and philosophy (Patočka 1992 [1933]: 68).

In *The Concept of Evidence*, this fracture is not yet addressed. However, in his 'Sketch of the evident structures of our world' (Patočka 2008 [1931]: 33–47), Patočka notes that "a correlation of the subject and object and the form of time is the most universal basis of concrete experience" (Patočka 2008 [1931]: 34). The flow of experience is temporal. "Consciousness becomes dynamic", with its own time experience, where "past awaits each present which drags the future with it" (Patočka 2008 [1931]: 35). As Patočka writes, "my own being and time clash against each other. On the one side, I am like everything else being here by the grace of time, dependent on time, without any guarantee that at any given moment there will be a future for me; on the other side, I have the idea of time, which is nothing empirical. This universal idea elevates me above particular time [of finite existence]" (Patočka 2008 [1931]: 35). Hence, "since time relativizes my existence", it is clear that "our consciousness cannot be purely a consciousness of existence" (Patočka 2008 [1931]: 35). We can think about ideas that are not in time. Hence, what I understand are not simply beings that exist; I also grasp the sense and significance of them, their meaning. Meaning cannot be reduced to their objectivity, their thingness, their existence. It transcends them. This implies that the idea of time discussed is a cue to how we can understand meaning. It gives us a way of unifying ideal meaning and the uncertainty of existence, which is life. The "logical-structural evidence" that we understand is not the existence of things but their *meaning* (Patočka 2008 [1931]: 36). Redness or greenness is not identical with a thing that is green or red, but we understand the meaning of redness or greenness, apart from red or green things. Similarly the "relation 'in between' is not identical with the aggregate of things, where there is something third in between them, but it is the characteristic mode of a relation that we can grasp through individual cases" (Patočka 2008 [1931]: 36).

Patočka follows with a discussion of our understanding of ideas and their different role in the mathematical and natural sciences, pointing out that these are domains of natural laws only. Except in formal domains, there cannot be ideal laws. Nature changes through time. Things influence each other constantly. Yet these changes are not arbitrary. The "conditio sine qua non of natural being" is time,

which means that "everything that is has the reason for its being in the past" (Patočka 2008 [1931]: 36). Reasons for change are in the past, which influences the future. From this observation comes the idea of scientific causality, leading to that of the lawfulness of nature. However, this lawfulness is predicated on the neutralisation of time to a homogeneous medium that is free of contingency. In other words, although "the idea of scientific causality leads naturally to the idea of natural lawfulness", natural science cannot reduce this lawfulness to its logical moment. To reduce nature to its scientific model would mean that the world of our living would become "only the spatial whole, where time would become one of the dimensions of space" (Patočka 2008 [1931]: 39). Scientific nature is not the world in which we live.[12] Thus, as Patočka sums up, "there is no law that science could legislate as unchanging; yet each scientist must believe in the principle of constancy" (Patočka 2008 [1931]: 41).

The principle of constancy gives certainty to the natural scientist in researching the 'facts of nature' relative to the current state of knowledge. For the "Ancient Ionian physicists, the fact was that the Earth is flat"; while for us this is simply a "prejudice" (Patočka 2008 [1931]: 41). There is a relation between the state of scientific knowledge and the form of evidence employed because scientific cognition and the evidence needed for its support are mutable. Each new aspect of knowledge requires new evidence. The science of the Ancient Ionians is incompatible with science today. Current natural science constitutes the world based on spatial and causal relationships (Patočka 2008 [1931]: 42). This is important to remember: with new inventions and the shattering of old models, what counts as evidence for knowing undergoes modification. However, there is a constant that demarcates the modern sciences. Each science is based on a foundation and a set of basic principles in each regional domain that are established deductively. From these fundamental principles, scientific nature is built or shattered whenever those principles are challenged and new foundations need to be laid for new knowledge claims. In this sense, the scientifically constructed world is "independent of the subject, it does not belong to him": scientific nature is built from the ideas of homogeneous space, time and causality, from which the subject is excluded (Patočka 2008 [1931]: 42).

In contrast, we live in a world that we understand practically, through our acting there. This is the 'subjective world' which includes the experience of all subjects. Here we speak of "intentional acts", such as "perceiving, remembering, judging, valuing. The subject has oneself in his own acts and through the acts, he has all other objects" (Patočka 2008 [1931]: 42). The question is how we can know other subjects. What kind of evidence is needed for recognition of the other? We have to be careful not to "hypostatise the other subject as well as ourselves on the model of a substance, which persists, even if nobody is aware of it" (Patočka 2008 [1931]: 46). Here evidence is not the same as in natural science. Our awareness of doing, acting and the responsible realisation of our aims is "evidence where our life takes

[12] Husserl will argue this in his last work, see Husserl 1970.

place, especially our cultural life". The "principle of this evidence is the conceptual correlation of ends and means" (Patočka 2008 [1931]: 46).

Patočka concludes his consideration of the structures of our world by noting that we have two flows of life that constitute the world in two different ways: one is the objective world of science; the other is the subjective world of various regions of values (Patočka 2008 [1931]: 47). The question is how the concept of evidence applies to these different regions. As he notes, the study of evidence clarifies how reasoning leads to the constitution of the meaningful whole. According to Patočka, it would also resolve a perennial problem of philosophy, the question of being (*otázku jsoucna*) – or at least would look for its solution. The concept of evidence, then, requires that in order "to write the history of modern philosophy", we need to "examine different approaches that offered a solution to this problem" (Patočka 2008 [1931]: 16). It is said that modern philosophy is the search for the correct sense of evidence. Thus, the essence of philosophy should be to unify life, which is spread between different regions of being; to return to life the awareness of its unity, to provide the "balance sheet of spirit with itself" (Patočka 2008 [1931]: 16).

Conclusion

Patočka's starting point is the history of thinking, with particular focus on the idea of evidence. He sketches the historical unfolding of this concept. His aim is to show that only through a historical untangling of the problem of evidence can we make sense of our current notion of evidence, and its scientific character as it developed throughout history. Thus, only by understanding the history of ideas can we understand the present crisis of philosophy and science.

At the heart of Patočka's dissertation is the history of scientific reasoning, especially as it is ineluctably tied with mathematics and mathematical logic. All the themes that Patočka addresses in his lifelong *oeuvre* are, *in nuce*, already there: situational knowledge (Patočka 2008 [1931]: 32); the problem of the body (Patočka 2008 [1931]: 66); the question of meaning, which is the goal of life and the world (Patočka 2008 [1931]: 30); and the two different constitutions of the world, objective and subjective. Perhaps Patočka's historical framing of these topics leads him to foreshadow certain problems that already exceed Husserl's model of immanence and transcendence; in other words, Husserl's phenomenology. In *The Concept of Evidence*, concerning knowing and evidence, Patočka suggests that to speak of knowing, a being must show itself to us, thereby allowing us "to know it" (Patočka 2008 [1931]: 15). It might be interpreted that without this showing, there cannot be knowing; hence this showing of 'what is' is the meaning of a thing, which it is not possible to 'freeze' in time and secure by a proposition. Thereby, this showing, related to our cognition, might be taken as a predecessor to Patočka's late meditations on a-subjective phenomenology. There are other

(continued)

aspects in *The Concept of Evidence* that could support this reading: for example, when Patočka discusses "the correlation of subject–object", he notes that a flow of consciousness is tied to one subject only, constituting the unity of experience. This primordial fact of conscious experience does not require diversity on the side of the object. As he elaborates, for the unity of experience of a thing it is not necessary to have the multiplicity inherent in the thing; yet the object has this multiplicity (Patočka 2008 [1931]: 34).

Patočka also reflects on the idea of the subject and asks who is this 'I' that knows: "why am *I* exactly this particular one; what am I, in this place and time and why, precisely, is it me who has to carry my own individual lot?" His answer is that "I am something inexplicable [*zvláštní*], which cannot be reduced to any causal bundle, I am not only in the world but I also stand against it as an autonomous component" (Patočka 2008 [1931]: 87). It would be enlightening to extend this investigation to consider how 'the question concerning what *is*?' relates to the knowing subject.

Patočka concludes his treatise on verification with reference to Husserl, noting that "phenomenology cannot tell us what is actual". It can only outline the conditions of possibility for something to be considered real. "In phenomenology, there is no passageway from ideas to things" (Patočka 2008 [1931]: 118). The problem of distinguishing between real and ideal, the problem that is most acute in natural science, is avoided in phenomenology. In the last part of his dissertation, Patočka employs Husserl's concept of evidence to answer most of the questions that he poses in the preceding part of his work regarding modern tradition. Yet, there is an important caveat in the last sentence of *The Concept of Evidence*. According to Patočka, Husserl does not offer a finished philosophy, but rather provides the best possible philosophical attempt so far at answering the question of evidence inherited from modern epistemology (Patočka 2008 [1931]: 119). His *Natural World as a Philosophical Problem* follows Husserl's transcendental method. However, in *Meditations*, written 30 years later, he questions these same transcendental claims of phenomenology (Patočka 2009 [1969]).

Curiously, Patočka never abandons Husserl's phenomenology entirely. Years later, citing Husserl – "*Das Selbsttverständliche verständlich machen* [to explicate what is self-evident; to make the obvious/self-evident comprehensible]" – Patočka explained phenomenology as "a study of phenomena" (Patočka in Rezek 2010: 13). Yet, in the year 1969–1970, in his lecture course *Introduction to Phenomenological Philosophy*, Patočka reflects on the study of phenomena, asking what is and what is not an entirely legitimate claim to knowing. Reminiscent of the observation he made in *The Concept of Evidence* about what being is and how we can know it, Patočka writes:

(continued)

> During each showing, we must presuppose that what shows itself to us, must be; that it is a real being, that it is not just a mere phenomenon, a piece of our inner experience, that it is not something private, that it *is* in the strong sense of the word.
>
> What does this 'is' mean? Beings show themselves to us, that they are and as they are (Patočka 1993: 72).[13]

In Patočka's view, we need to rethink phenomenology, not abandon it. We need to continue on the road started by Husserl and pay attention to what manifests; to what shows itself to us. As Husserl saw in *Logical Investigations I*, we must pay attention to what is given to us but to nothing besides the given (Patočka 1993: 73–74). We need to clear our seeing from the encrustations inherited from tradition. Phenomenology must concentrate on the 'appearing', as such. As Patočka claims, Husserl and Heidegger lost this 'appearing' by stepping over to what already appears.

Finally, I will allude to Patočka's *The Concept of Evidence* once more. Citing Maine de Biran and Jacobi, Patočka explains how the wonder experienced in childhood in the face of the mystery of existence and the wonder about the intuition of eternity, respectively, marked the two philosophers' paths of thinking (Patočka 2008 [1931]: 19). The same might be said of Patočka himself. Throughout his life, Patočka's philosophical interests seem to circle around questions concerning meaning constitution, truth and responsibility. From the beginning to the end, Patočka circumnavigates the same problems; looking at language, the world, the body and human existence from different perspectives. His approach to considering these same things under many 'shades of light' is in itself a profoundly phenomenological practice.

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[13] "*Při každém zjevování musíme nutně předpokládat, že to, co se nám zjevuje, jest, že je to skutečné bytí, že to není pouhý fenomén, kus našeho prožívání, že to není něco jakkoli privátního, že to jest v silném smyslu slova. Co toto 'jest' znamená? Jsoucna se nám odkrývají v tom, že jsou a jaká jsou.*"

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Patočka on Galileo

Ľubica Učník and Ivan Chvatík

Abstract In this paper we present Patočka's discussion and critique of the transformation of 'the world' into 'nature'. Patočka takes up the history of ideas from the Ancient Greeks to the present, to show how our understanding of nature changed from the mythical world of the Ancient Greeks to modern mathematised nature; whereby we simply accept a description of nature as nature itself. In Patočka's account, the importance of Galileo's mathematisation of movement is central.

Keywords Aristotle • Galileo • Descartes • Mythical world • Ancient Kosmos • Modern science

Patočka's writing on modern science and its development is an extension of his reflection on the contemporary world. His account continues and expands the phenomenological analyses of Husserl and Heidegger. He extends Husserl's critique of the methodology of modern science, which Husserl claimed had been turned into technique instead of being a self-critical, responsible endeavour. Likewise, Patočka reworks Heidegger's discussion (see Heidegger 1976 [1938], 1985) of the transformation of the Greek *ta mathemata* into the *a priori* of the mathematical in modern science.[1] According to Patočka, modern science transforms the forces of nature into mathematical equations, giving us an ability to reckon with them.[2] Mathematised nature then becomes "understood purely as a means which humans have not only a right but a duty to exploit and expand" (Patočka 1996b: 13). Modern technological science – defined in terms of effectiveness and utility – not

[1] See, for example, Blecha 1997; Dubský 1997; Dodd 1996; Kohák 1989: 76ff. See also Findlay 2002.

[2] See also Eddington 2007; Heisenberg 1972.

Ľ. Učník (✉)
Philosophy, School of Arts, Murdoch University, Perth, Australia
e-mail: l.ucnik@murdoch.edu.au

I. Chvatík
The Jan Patočka Archive, The Center for Theoretical Study, The Institute of Philosophy at the Academy of Sciences of the Czech Republic, Prague, Czech Republic
e-mail: chvatik@cts.cuni.cz

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only aims "at releasing forces for action and domination, for ordering the world, for [the] transformation of things for purposes foreign to them"; it also rules our lives (Patočka 1996b: 13).

According to Patočka, Galileo represents a turning point in the transformation of medieval science and our idea of nature and its investigation. The Aristotelian science that was a contemplation of essences and first principles of Being becomes modern science concerned with technical know-how. Patočka traces the origin of the 'mathematisation' of nature to the Greeks, "who first discovered science in the sense of a consistent sequence of reasoning, in the form of mathematical theory" (Patočka 1996b: 2). This new, *theoretical* reflection on the world is the outcome of the collapse of the mythical world. As Patočka notes, while humans live in a mythical world, they refer "explicitly only to *parts* of all there is, never to the world *as a whole*" (Patočka 1996b: 2, emphasis in original). Myths explain everything by stories situated in a primordial past. For mythical people, all is as it always was, because myths explain everything. Once myths lose their explanatory power, the world reveals itself as something mysterious. The ancient Greeks were the first to confront the mystery of the world after this collapse of the mythological explanation of reality.

In the mythological world, "humans can encounter spirits, demons, and other mysterious beings" and yet, "they do not encounter the mystery of manifestation as such", because the world as a whole is concealed (Patočka 1996a: 13). They cannot encounter the miracle of the appearance and disappearance of beings outside of the explanations offered by myths. When the mythical explanation collapses, the world manifests itself as something that needs a new explanation (Patočka 1996a: 61). Philosophy filled this void. For Patočka, humans cannot live without meaning, hence, since the eternal explication of everything in myths – "modest but reliable" (Patočka 1996a: 12) – lost the power to explain, questions became possible. Suddenly, humans required a new approach to the mystery of the world. As Patočka says, "philosophy is unthinkable without questions. But to develop or pose a question means precisely to find an explicitly empty space, to find something that in a certain sense is not here" (Patočka 2002: 51). Such a space was opened by the breakdown of mythical explanation.

The Ancient Greeks developed new ways to approach the meaning of the world which did not rely on mythical stories. Their first tentative answers were in terms of *kosmogony*. However, Aristotle was the first to address the question of the meaning of things *in* the world and to ask why they are as they are. Aristotelian science, up to the modern age, is a continuation of that spirit, in which the "phenomenal world" is "essentially identical to the real world" (Patočka 1954: 27)[3] and 'inquiry' is concerned with the principles of things.

[3] Erika Abrams's and Martin Pokorný's translation of Patočka's "Galileo Galilei and the End of the Ancient Cosmos" is forthcoming (Patočka in press–a) and was originally published in 1954 in the journal Vesmír (Patočka 1954). See also Erika Abrams's and Martin Pokorný's translation of Patočka's 'Galileo Galilei and the End of the Cosmos', which is forthcoming (Patočka in press–b)

To take a historical leap forward, in the sixteenth and seventeenth centuries a new understanding was beginning to develop. In contrast to Aristotelian physics, modern science became interested in knowing, not *why* something *is*, but *how* it *works*. Modern techno-science 'uncovers' the 'mechanics' of nature in order to master it. As Patočka notes, through the mathematisation of movement we became the masters of nature, allowing us to predict its 'mechanics' (Patočka 1964a: 64). Furthermore, this new type of knowledge allowed us to use natural resources, accumulated over millennia, as a stockpile for further consumption and exploitation.[4] Although, humans "become the ruthless rulers of an abstract object to which they have only an abstract relation" – in other words, they are masters of the mathematical model of nature – this mathematical model considers humans also as natural objects. Humans as natural "objects in the world" also become part of a "technology of human resources" (Patočka 1996b: 13). In the latter instance, instead of being masters of techno-science, humans are incorporated into a standing reserve for future use by technological projects.[5] As Patočka explains, "the abstractly personal relation to the world is thus a technology which becomes its own purpose" (Patočka 1996b: 13). Any other relation to nature – considering it as the life-word, the world in which we live, as opposed to a stockpile for our unlimited use – is forgotten. Central to Patočka's critique is the transformation of 'the world' into 'nature'. For us, moderns, mathematised nature is a collection of present things to which we have access *via* mathematics. Modern science abolished the finite, reliable world, where humans dwell, and replaced it with the infinite mathematised universe, as Alexandre Koyré points out (Koyré 1968).

From the Ancient *Kosmos* to Modern Nature

To make sense of this peculiarly modern non-relation to a world that is replaced by mathematised nature, Patočka takes up the history of ideas from the Ancient Greeks to the present, approaching the task from different perspectives. One part of his enquiry concerns the idea of science as we have inherited it, from the Ancient Greeks up to the beginning of the modern age. At the beginning of the modern age, the grounding concept of 'science' underwent a transformation: the ancient and medieval Kosmos were replaced by a modern, mathematised nature. As Galileo famously states, nature is "written in mathematical language, and its characters are triangles, circles, and other geometrical figures; without these it is humanly impossible to understand a word of it, and one wanders around pointlessly in a dark labyrinth" (Galilei 2008: 183).

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and was originally published as the eighth chapter of Patočka's important monograph *Aristotle, His Forerunners and Successors* (see Patočka 1964b).

[4] Heidegger also speaks of the enframing of nature that science transformed into a 'standing-reserve' for future use (see Heidegger 1977b).

[5] See also Heidegger 1977a.

Patočka attempts to unpack how ancient and medieval people understood the world prior to this mathematisation of nature. He reminds us of the Pre-Socratic thinkers, beginning with Anaximander and including Heraclitus and Parmenides. The Pre-Socratics were interested in the drama of the world, the *kosmogony*. For them, humans can understand this drama, although it takes place outside of their lives. According to Patočka, Socrates changes this focus on nature – *phusis* – by foregrounding the question of human existence. Socrates attempts to show that humans can not only understand the drama of the world but can also find their way towards the idea of the Good and can thus recover meaning in their lives (Patočka 2007: 16–17).

For Socrates, humans are different to everything else in the *Kosmos*. They are always imperfect; unfinished, so to speak; but through caring for their souls, through questioning themselves and others, they can search for meaning and achieve *unity* in their lives (Patočka 2007: 24). Socrates is a questioner. He never offers any answers. His questions are negative, suggesting that as finite creatures we can never know all, but we can search for new meaning when traditional meaning becomes problematic. Furthermore, we are historical and situational beings, because the context in which we live shapes our understanding of the world. For Patočka, "Socrates is a discoverer of human historicity" (Patočka 2007: 24).

Plato, confronted with Socrates' death, offers a new solution to the problem of the human search for meaning. His positive realm of Ideas provides a transcendent, unchanging ground upon which transient human meaning can be secured. His solution is the foundation of the whole of Western philosophy (Patočka 2007: 20, 29–30). As Alfred North Whitehead famously said, all philosophy after Plato is just a footnote to this beginning (Whitehead 1978: 39).

Aristotle changes the Platonic *epistēmē*, secured by the sphere of immutable Ideas, by transforming the Platonic vertical relation between Ideas and the Heraclitean world of flux into a horizontal relation between beings, to which we have immediate access (Patočka 1994: 66–67). Aristotle transposes ontology into *empeiria* (Patočka 1964a: 10).

The Aristotelian solution, modified by Christian thinkers to make it compatible with Christian teaching, ruled the understanding of nature until the seventeenth century, which was marked by a renewal of Platonism. The struggle between Platonists and Aristotelians paved the way for a change in the conception of nature (Patočka 1964a: 10). This transformation of nature has several implications, which have consequences for our understanding of the world, nature and ourselves.

In the modern age, the infinite universe is mute in regard to questions concerning human existence. Humans – no longer the centre of the universe – are moved to its margins, incredulous that they have been deceived by their senses for so long (Arendt 1998 [1958]: 275). God becomes even more mysterious, while the universe cannot provide the answers that God had communicated previously. The 'nature' conjured up by modern science has no purpose and no meaning beyond mathematical equations. Humans are no longer part of the nature that they previously understood. The newly discovered universe is a mathematical machine in which

celestial bodies behave in the same way as rocks dropped from the Tower of Pisa, pendulums, or an apple falling from a tree onto Newton's head.

Prior to the march of modern science, in medieval Christianity, humans were "the centre of the universe", while the "whole world of nature was believed to be teleologically subordinate to [man] and his eternal destiny" (Burtt 1925: 4). More importantly, there was no doubt that the world was "immediately present and fully intelligible to [the human] mind" (Burtt 1925: 5). As Patočka notes, the natural philosophy of the Ancient Greeks, and by extension, the Aristotelian science of medieval people, was about the world they lived in. This understanding disappeared as if it were a puff of smoke: modern humans "no longer [live] among things as they actually are but only among [their] own subjective processes" (Patočka 1989 [1936]: 151).[6] Humans not only lost the world and God; they also lost the certainty of their senses, which, until the advent of modern science, they had been able to rely on. Suddenly, despite seeing the sun rise every morning, thus indicating its travel around the earth, the new science announced that this was a false picture of reality. The earth travels around the sun, not the other way around. The fearless man of Copernicus's imagination, standing on the sun and overlooking all the planets, becomes the image of the new world (Arendt 1998 [1958]: 264).

The changes in our understanding of the world also include changes in the understanding of what we consider to be 'common sense'. Although Koyré asserts that "[c]ommon sense. . .is – as it always was – medieval and Aristotelian" (Koyré 1943: 337), Hannah Arendt insists that modern common sense, instead of being our witness to reality, becomes unreliable. For her, this is another indicator of the crisis we live in. "In every crisis a piece of the world, something common to us all, is destroyed" (Arendt 1968: 178). For Tycho Brahe, for example, a stone dropped from "the mast of a moving ship" must fall behind the mast due to the movement of the earth and the ship. The speed of a boat would determine exactly how far behind (Koyré 1943: 343). However, for Brahe, since the stone falls at the foot of the spar, the earth must be stationary. To us, this 'proof' sounds unbelievable, yet it was the common sense of his age. Only if we observe the earth from the point of view of the wider universe can we know that the movement of the earth and the movement of a ship will not influence falling rocks in this way, because the rock, the boat and the earth exist relative to each other. In other words, we understand the fall of rocks according to modern scientific standpoint.

J.W.N. Sullivan's commentary provides a startling example of how modern science disregards the physical world in favour of mathematical knowledge. As he points out, modern science admitted the notion of electricity – "of which we knew nothing but its mathematical structure" (Sullivan 1933: 140–141) – into the physical universe of modern nature, thereby changing the very meaning of the 'physical'. However, we should remember that the substitution of mathematics for the world we live in took place at the very start of modern science: Galileo accepted 'gravity' into his arsenal of concepts, without having any other proof of its

[6] For a similar analysis, see Heisenberg 1972: 131.

existence except the mathematical formula. Sullivan's example demonstrates the taken-for-granted and accepted mathematisation of nature in which a *description* of nature becomes nature itself.

What modern science instituted, and what has now become broadly accepted, is the separation between mathematised nature and our experience of it. Sullivan suggests that mathematised science "made of man an entirely accidental by-product of a huge, mindless, purposeless, mathematical machine" (Sullivan 1933: 139), with no access to this machine's 'reality'. It is important to recognise this problematic substitution of the scientific method for an understanding of the world. Humans are not rocks or lava on the moon, which can be unproblematically 'measured' by quantitative means. This is not to suggest that we should disregard the scientific method. On the contrary, we need to understand the scientific method, in order to be mindful of its limitations; of what science can and cannot speak.

Reflecting on this conceptual shift from a finite to an infinite universe, Patočka considers how the ancient and medieval continuous, harmonious universe – intelligible to humans – turned, first, into a Copernican nature of "mathematical simplicity and harmony" (Burtt 1925: 54), only to be transmogrified into "the mathematically expressible motions of matter itself" in space and time (Burtt 1925: 92–93). Identical laws now ruled the heavenly sphere and earthly nature. Ceasing to be different, both realms became equally accessible to reason, yet no more accessible to human senses – which the new science regards as unreliable.

As Patočka observes, the original impulse of the new scientists was to unite the two regions, earth and heaven. The Platonists, in their opposition to the Aristotelians, had searched for the unity of the *Kosmos*, to overcome the duality of heaven and earth (Patočka 1954: 27): between the heavenly sphere of "eternal lawfulness," which we can account for by geometry, and the earthly domain of "approximation and contingency", the sphere of qualities, which is impossible to reduce to geometry (Patočka 1954: 27). In their struggle for the perfect, unified *Kosmos*, in which the earth is as dignified as the heavenly bodies, they destroyed not only the ancient *Kosmos* but also remoulded humans' understanding of the world (Patočka 1954: 28).[7] As Whitehead says, these changes influenced "our mentality so that modes of thought which in former times were exceptional, are now broadly spread through the educated world" (Whitehead 1925: 3). The outcome was an unexpected split of the world, but a split, nevertheless. Mathematised nature becomes accessible to human intellect only, thereby inaccessible to human senses.

In this way, we pass over the fact that the world is our human abode, treating it as a borderline case of mathematised nature. We have become truly cosmic creatures. Once we accept scientific descriptions of our earthly habitat from the point of view of the *Physica coelestis*[8] – from the point of view of mathematics, which is mute to our human predicament – we come to consider the universe in a way that is not

[7] See also Patočka 1964b.

[8] See, for example, Koyré 1943: 334.

reflective of our earthly experience. As Patočka says in the Foreword to *The Natural World as a Philosophical Problem*,

> Modern man has no unified world-view. He lives in a double world, at once in his own naturally given environment and in a world created for him by modern natural science, based on the principle of mathematical laws governing nature. The disunion that has thus pervaded the whole of human life is the true source of our present spiritual crisis (Patočka 2008 [1936]: 129).[9]

In this view, science and experience have parted company. The problem is not necessarily the use of mathematics: Plato also recommended mathematics to his students. The issue is not the understanding of nature using a mathematical method – there is no doubt that the mathematical understanding of nature has brought many advantages to human life. Patočka's point is that it has also brought much despair, because we cannot await moral answers from a mathematised nature. The source of difficulty is the assumption that if we can mathematise nature we can also mathematise human relations; and that mathematics can give us all the answers, in every sphere of our living, from physics to ethics.

The *Punctum Archimedis*

Archimedes' dream to find a point outside of the earth that would allow him to move it was finally realised, at least in thought. This out-of-the-earth 'observational' point allowed Newton to formulate new laws, which applied to earthly objects as well as planets in the firmament, thereby turning Galilean geophysics into astrophysics (Arendt 1998 [1958]: 11, 262–263). With this gesture, the earth becomes one planet among many, instead of being the centre of the celestial sphere.

However, this discovery has its price. This *Punctum Archimedis*, by implication, suggested the deceiving nature of human senses. In order to recover the certainty of human knowledge, Descartes proposed to establish a certainty of knowledge grounded in the immanence of consciousness (Arendt 1998 [1958]: 284). According to Descartes' theory, the touchstone for reality is, for the first time, considered to be *human consciousness*; previously 'reality' had been defined in terms of 'the world' experienced by humans. He dispenses with the world altogether by providing certainty only in the mind's own operations. In this view, thinking can go on without the need to worry about unreliable human senses, or the possibility of an 'evil genius' who could be deceiving us (Arendt 1998 [1958]: 277).

To eliminate this threat of an 'evil genius' playing with the evidence of our human senses, the mind's mathematical operations become primary. Husserl notes the Galilean achievement of positing the law of perfect causality, which changed medieval science into the modern science of know-how (see Husserl 1970). Since Galileo, Newton and Descartes, we have forgotten that we deal with idealised

[9] English translation by Erika Abrams, forthcoming (Patočka unpublished).

phenomena in physics. According to Koyré, the "Galilean concept of motion (as well as that of space) seems to us so 'natural' that we even believe we have derived it from experience and observation, though, obviously, nobody has ever encountered an inertial motion for the simple reason that such a motion is utterly and absolutely impossible" (Koyré 1943: 336). Heidegger shows also the presupposition that lies at the heart of the modern *mathematical* law of inertia. If a body is "left to itself", it will remain either at rest, or it will move forever.[10] As he notes, we cannot find any such body in our everyday living (Heidegger 1985: B, I, §5e, 88–89). Humans can *think* the physical law and an object in a state of inertia; but they cannot experience it.

E.A. Burtt elaborates this substitution of the experienced world with a mathematised nature created exclusively by thinking. He notes that the new science abolished the teleology of the scholastics, which was "an ultimate principle of explanation", and replaced it with the concept of *perfect* causality in physical nature: that is, with a mathematical concept that humans cannot experience (Burtt 1925: 95). In our experience, we understand that events follow one after the other with some regularity, but this type of cause and effect is imprecise; and therefore, cannot be used in an exact mathematical science. Science must lift this imprecise regularity out from our everyday experience and generalise it, if it is to be of any use. In thought, we can *posit* perfect causality, but we cannot experience it.

The Galilean shift from the Aristotelian universe to his new, mathematically constructed nature begins from his reworking of the concept of movement. As Galileo says, some philosophers posit that an object, thrown with a force, follows a curved line. But to understand the structure of nature, we must accept that it is mathematical. If we accept this, we transpose a curved line into a geometrical figure that we can measure. Therefore, Galileo's insight is that "the path of a projectile is a parabola"; while it is "carried by a uniform horizontal motion compounded with a naturally accelerated downward motion" (Galilei 2008: 357).

We are dealing now with a geometrical figure that includes motion as one of its dimensions. We can make it even more precise by conceiving the trajectory of a projectile as moving on the path of "a semiparabola" (Galilei 2008: 357). Once we proceed "in a scientific way", "cut loose from. . .difficulties" such as "effects of weight, velocity, and also shape, which are indefinite in numbers", and propose "the theorems" that will be free of "such impediments" (Galilei 2008: 364), we can construct, for example, "a table of ranges for shots of high elevation". Since we can test these by firing balls from mortars, we will affirm that our theorem describes those paths "exactly" (Galilei 2008: 367).

According to Patočka, Galileo adopts his reasoning based on the sphere of non-theoretical life; the life of production of and exchange of goods, where "that sober, calculating element which wants nothing but things themselves and fears nothing so much as illusion and self-deception" was always important (Patočka

[10] See also Koyré 1943: 334–335.

1989 [1942]: 162).[11] In the *Dialogue Concerning the Two Chief World Systems*, Simplicio is confused by the formal attributes of objects, which are supposed to explain the 'book of nature.' For him, "it is the imperfection of matter which prevents things taken concretely from corresponding to those considered in abstract". Galileo answers with an example from practical life:

> Just as the computer who wants his calculations to deal with sugar, silk, and wool must discount the boxes, bales, and other packings, so the mathematical scientist (*filosofo geometra*), when he wants to recognize in the concrete the effects which he has proved in the abstract, must deduct the material hindrances, and is able to do so. I assure you that things are in no less agreement than arithmetical computations. The errors, then, lie not in the abstractness or concreteness, not in geometry or physics, but in a calculator who does not know how to make a true accounting (Galilei 1967 [1630]: 207–208).

Calculation, formalism and prediction – types of thinking applicable to everyday exchanges – migrate from practical life into the new scientific endeavour and become the foundation of human knowledge. Suddenly, nature becomes mathematical, patterned in mathematical structures; while hiding behind secondary qualities, deceiving the calculator who cannot abstract from her own senses. The imprecise, changing things that we encounter in the world become an obstacle to new knowledge.

At the end of his article, 'Galileo Galilei and the End of the Ancient Cosmos', Patočka points out the importance of Galileo and the way he – unintentionally – overturned the ancient *Kosmos*. "Galileo's lifework is a document of the way in which the endeavor at perfect unity and harmony of the cosmos, inherited from ancient times, turned into its opposite when pushed to the extreme: the Aristotelian cosmos was no more, but it took with it in its demise the cosmos itself" (Patočka 1954: 29).[12] Although Galileo's work began the overturning of the ancient *Kosmos*, he still thought within the old Platonic and Aristotelian schema. His physics is the physics of the earth, "a physics of gravity" (Patočka 1954: 28–29); he was interested in "the kinematics of our terrestrial region" (Patočka 1964a: 306). His concern is not with the cosmic system but with "the problem of a world system", as the title of his *Dialogue Concerning the Two Chief World Systems* announces (Galilei 1967 [1630]). His novel approach was to see motion not, as in Aristotle, as "*change inherent in things*" (Patočka 1964a: 307, emphasis in original), but as a composition of "time, distance, speed and increase of speed"; and he sees these constituents on the model of geometry, as "relations between the sides and the angles of a triangle" (Patočka 1964a: 308). Yet, despite his reworking of the Aristotelian idea of motion into a mathematical concept (Patočka 1964a: 309), he could not abandon the idea of a "uniform circular motion" or of a material body without weight (Patočka 1954: 29). He was the last Platonist, as Patočka says. He could imagine only the movement of an abstract, yet physical body; there cannot be a body that is not influenced by the earth's gravity. The abstract object is, for Galileo, an abstraction of a

[11] See also Arendt 1998 [1958].

[12] For English translation see Patočka in press–a.

physical body and not a geometrical body moving in a geometrical, imagined space. As Patočka notes, this thinking is a residue of the Aristotelian separation between "mathematical and physical bodies". Moreover, for Galileo, "all motion in the world comes. . .from gravity" (Patočka 1954: 29). For him, a thrown object following a straight line is an *impossible idea* (Patočka 1954: 29, 1964a: 309). It was Newton who completed Galileo's project by proposing the law of inertia, whereby objects move in straight lines and at constant velocity unless affected by external forces (Patočka 1954: 28). 'Universal' physics was the work of Newton.

To reiterate: Patočka points out that the seventeenth century marks the end of the ancient and medieval vision of the world (Patočka 1989 [1942]: 160–161). Yet, as he also notes, in the seventeenth century "the new thought did not extend beyond the limits of mathematics, physics, and other theoretical disciplines". By contrast, the eighteenth century – the Age of Reason or the Enlightenment – took the new, formal reasoning into the sphere of human affairs (Patočka 1989 [1942]: 158). As Kant expresses it, "*Enlightenment is man's emergence from his self-incurred immaturity*". Humans came of age. They *can* use reason "without the guidance of another" (Kant 1991 [1784]: 54, emphasis in original).

As Patočka notes, German thinkers of the eighteenth century also formulated a critique of 'reason' (Patočka 1989 [1942]: 160). Patočka's endeavour can be seen as a continuation of this critique, in the form of a reflection on and engagement with the history of ideas.

Conclusion

> It is the stillest words which bring the storm. Thoughts that come on doves' feet guide the world (Nietzsche 1969: Part 2, 22, The Stillest Hour).

At the beginning of his book, *Aristotle, His Predecessors and Inheritors* (Patočka 1964a),[13] Patočka notes that we need to acknowledge the historical background to the ideas that we consider, in order to reflect on the changes in our understanding through time. Without historical perspective, every factual discussion lacks the concrete horizon that gives meaning to the concepts about which and with which a discussion is concerned, and from whence the living meaning of concepts takes its measure (Patočka 1964a: 7). His approach is to give his readers a "history of *problems*" and not to offer solutions. Without an awareness of the problematic nature of concepts that we have inherited from tradition, we cannot find answers (Patočka 1964a: 13–14).

In order to understand why certain problems, at certain times, became vital requires an acquaintance with the history of ideas. Only by critically examining the history of ideas, and by learning how thinkers through the ages dealt with certain concepts, can we question what we have inherited.

(continued)

[13] Recently translated into French by Erika Abrams.

'Transformations in thinking come on doves' feet', sweeping away the configuration of knowledge that we take for granted. For Patočka, the issue is "whether historical humans are still willing to embrace history": whether we are still able to critically engage with the history of ideas and question particular concepts, instead of unthinkingly appropriating them (Patočka 1996a: 118).

Modern science is no longer philosophical; it is not "a shaking off [of] the naive confidence." In other words, "science becomes a specialized mode of knowing, one which applies tried and proven formal schema of objectivity to ever-new regions of being and new aspects of experience" (Patočka 1989 [1976]: 285–286). Science deals with formulas and hypotheses which are then applied to all spheres of life. The result is "the sentiment of alienation", as science's method, applied more broadly, promotes the view that "every human initiative or deed [can be] socialized, controlled, and integrated into current affairs and carried off alone into the unknown" (Patočka 2002: 6). Instead of reflecting on the limits of the scientific method and questioning its application to every sphere of human affairs, our tendency is to look for more formulas.

Patočka's study of Galileo – exemplifying the beginning of modern science – is an attempt to show the transformation of the world; from the medieval world view that Galileo himself helped to demolish, to our modern, mathematised view of nature. It is up to us whether or not we choose to acknowledge and understand how, and to what extent, that transformation impacts on our lives in the modern world.

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Nostalgia and Phenomenon: Husserl and Patočka on the End of the Ancient Cosmos

Burt C. Hopkins

Abstract This essay argues that Jan Patočka's 'Galileo Galilei and the End of the Ancient Cosmos' goes beyond Husserl's fragmentary account of Galileo in *The Crisis of European Sciences and Transcendental Phenomenology* to present an account of the *a priori* eidetic structure of the foundation of a strand of the modern, scientific mathematisation of nature that is informed by *actual* history. In conjunction with this, Patočka adumbrates the eidetic structure of the concomitant limits on human meaning imposed by this historically dated conceptual foundation, insofar as the human being becomes a part of the mechanised world that Galileo's accomplishment makes possible.

Keywords Husserl • Patočka • François Vieta • Gottlob Frege • Analyticity • Algebra • Concept of number • Mathematical symbols • Phenomenology

A Priori and History in Transcendental Phenomenology

There is a view as widespread as it false that the appeal to history and the problem of existential meaning in Husserl's *Crisis* texts is the result of Heidegger's influence. Thus, so the story goes, Husserl finally recognised that the project to establish transcendental phenomenology as an empirically pure science was vulnerable to Heidegger's critique of his thought in the 1920s and early 1930s. As is well known, Heidegger's critique had two major foci: firstly, that intentionality as a phenomenon is derivative, in that it presupposes the ontico-ontologically more fundamental phenomenon of the historically determined facticity proper to human existence (*Dasein*); and secondly, that the eidetic structure of phenomenological cognition presupposes the historically driven and phenomenologically unsustainable meaning of Being that privileges a single and moreover derivative modality of time – the present – to the exclusion of time's more fundamental horizontal modes of the past and future. Husserl's appeals to *Existenz* and history in the *Crisis* texts are therefore supposed, by those subscribing to the view of Heidegger's influence on his thought,

B.C. Hopkins (✉)
Department of Philosophy, Seattle University, Seattle, WA, USA
e-mail: bhopkins@seattleu.edu

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to originate in Husserl's recognition that the aspirations to both transcendental purity and eidetic universality in his phenomenology are vulnerable to the Heideggerian critique.

The falsity of the claim that Husserl was influenced by or otherwise responding to this critique in his *Crisis* texts is evident when his limited understanding of the seminal work of Heidegger that presents its groundwork, *Sein und Zeit*, is considered in conjunction with what Husserl actually says about human *Existenz* and history in those texts. Regarding the former, Husserl's marginal notes in his copy of *Sein und Zeit* make manifest how very little of the basic ideas of that work, beginning with the *Seinsfrage* and the *Daseinanalytik*, he was capable of grasping. So far as Husserl is concerned, formal ontology raises and answers satisfactorily the question of the meaning of Being, while what is behind the strange "word magic (*Wortezauber*)" (Cairns 1976: 107) of Heidegger's analysis of *Dasein* on his view is the "complicated formalities and unclarities, simply so as not to make use of intentionality" (Husserl 1997b: 382). Indeed, in a 1931 letter to Alexander Pfänder, Husserl confided that Heidegger's theories were "inaccessible" to his way of thinking and that Heidegger surrendered "both the method of my phenomenological research and its scientific character in general" (Husserl 1997a: 480). With respect to the latter, it would be surprising, given Husserl's own acknowledgment of his inability to penetrate Heidegger's thought in 1931, if some 4 years later he were to suddenly come to the realisation of the need to surrender his own commitment to the fundamentally *a priori* mode of phenomenological cognition in response to Heidegger's critique. Careful study of the *Crisis* texts discloses not only that this commitment remains intact, but also that the transcendental and eidetic universality of phenomenological cognition, far from being attenuated in response Heidegger's criticisms, is actually extended in those texts to include both the radical self-responsibility of the phenomenologist and the historical horizon that is now presented by Husserl as the driving force behind phenomenological self-reflection (*Selbstbesinnung*).

In a word, far from abandoning the *a priori* and eidetically universal pretentions of transcendental phenomenology in the *Crisis*, Husserl endeavours there to do what heretofore had never been imagined, let alone attempted in thought in the history of philosophy: namely, to unify *a priori* cognition with historical phenomena. Husserl does this in a manner that presents evidence for the historical origin of the *Sinne* that govern the apriority of the fundamental concepts of the exact science of mathematics; that is, of the ideal science that for Husserl provides the foundation for modern physics, the most rigorous of the contemporary (to Husserl) European sciences that in his view are in crisis. Such evidence also, *ipso facto*, amounts to the phenomenological–philosophical case for an expansion of the methodological scope of phenomenology's *epistemological* quest for foundational cognition, to include the *historical* horizon and origin of the *Sinne* of the basic concepts of mathematics that make modern physics possible.

The Genuine Husserlian Context of Patočka's Analysis of Galileo's Achievement, and Its Advance over Husserl's *Crisis* Analysis

The difficulty of thinking together what appear *conceptually* as opposites – the *concept* of the '*a priori*' and the *concept* of 'history' – is no doubt one factor behind the failure of most post-Husserl phenomenologists to follow what Husserl on his deathbed referred to as the "small beginning"[1] made in the *Crisis* texts, and thus to investigate the transcendental historicity of the origin of the *Sinne* of natural sciences' foundational concepts. Another factor is no doubt the fragmentary nature of the *Crisis* texts and the incomplete status of what their first editor, but not Husserl, referred to as the "intentional-historical problem" of the origin proper to the *Sinne* constitutive of the exact sciences (Fink 1939).[2] One thinker who, however, managed to follow Husserl's "small beginning", and thus to realise that not only is there no *conceptual* contradiction involved in *phenomenologically* thinking together the '*a priori*' with the 'historicity' of the *Sinne* determinative of the exact concepts of sciences, but also that the most rigorous phenomenological account of the *Sinne* in question demands precisely tracing back their *apriority* to origins manifest in history, was Jan Patočka. In his 'Galileo Galilei and the End of the Ancient Cosmos',[3] he goes beyond Husserl's fragmentary account of Galileo in the *Crisis* to present an account of the *a priori* eidetic structure of the foundation of a strand of the modern scientific mathematisation of nature that is informed by *actual* history. In conjunction with this, he adumbrates the eidetic structure of the concomitant limits on human meaning imposed by this historically dated conceptual foundation, insofar as the human being becomes a part of the mechanised world that Galileo's accomplishment makes possible.

But even while going beyond Husserl, Patočka remains indebted to him, because the guiding supposition behind Patočka's account of Galileo's accomplishment is that the *Sinn* constitutive of the *a priori* foundation of modern mechanics is inseparable from the historicity of the concepts that were presupposed as well as generated by this accomplishment. Moreover, clearly in the background of Patočka's analysis of Galileo's achievement is that it is philosophically worthwhile to "reactivate" the novel "anticipation" (*Vorhabe*) (Husserl 1970a: 356 [367]) of a

[1] Edmund Husserl, in a conversation reported by Adelgundis Jaegerschmid, OSB, in 1936, see Jaegerschmid 2001: esp. 346. For an extended discussion of Husserl's "small beginning", see Hopkins 2010: 5–6, 12, 170, 213–114, 251–152.

[2] Published as "Beilage III" in *Die Krisis der europäischen Wissenschaften und die transzendentale Phänomenologie. Eine Einleitung in die phänomenologische Philosophie* (Husserl 1954). English translation: "The Origin of Geometry", in *The Crisis of European Sciences and Transcendental Phenomenology* (Husserl 1970a). Henceforth, English and [German Husserliana Vol.] page numbers, respectively.

[3] Jan Patočka, 'Galileo Galilei and the End of the Ancient Cosmos', unpublished translation by Erika Abrams and Martin Pokorný (Patočka in press). Original publication: Patočka 1954.

mechanics of nature in Galileo's thinking, the anticipation out of which its novelty originated, against the background of the transformed understanding of the world and the human's place in that world it was to bring about. In other words, Patočka's analyses effectively uncover a layer of meaning "sedimented" in the foundation of modern mechanics, whose de-sedimentation is philosophically significant; because, among other things, it diagnoses in the basic supposition of this foundation a root condition of the crisis of European sciences. Finally, Patočka's account of Galileo shares with Husserl's a certain nostalgia for the unity of the cosmos and the human's place in that cosmos, which they both think is lost with the peculiarly modern mode of mechanistic mathematisation of the world begun by Galileo – or so I shall argue. I shall develop my argument by showing that this nostalgia is above all significant because it stands in the way of the detection of a technical problem in the basic concept of the modern mathematics that makes modern physics possible, that is far more responsible for the enduring crisis in the foundations of European sciences than the nostalgia for the experience of a unity that all of European humanity, alas, was born too late to remember.

Patočka's Galileo goes beyond Husserl's by attuning the analysis of Galileo's achievement to the actual historical record of his thought preserved in his writings, which contrasts with the historical liberties Husserl took by employing the name 'Galileo' as a collective noun for the impulses behind and achievements generated by early modern natural philosophy. Patočka's Galileo therefore reveals, sedimented in his thought, the supposition that his innovations were in the service of the Platonic conviction that the true order of the cosmos is essentially mathematical and that this order unifies the Aristotelian distinction between sub-lunar and celestial beings by articulating the theorems that allow this order's *lawful* mathematical deduction; a deduction, albeit, whose guiding natural supposition is that the natural, elementary and fundamentally perfect motion is circular.

The innovation of Patočka's Galileo thus lies not so much in his mathematisation of nature but in his conception of motion in a manner that "completely dissociates the law he formulates from the semi-animistic physics of 'impetus' [...] For Galileo, there is no mysterious quality that inspirits the moving body; the change in state of motion presupposes simply the impulse of a force, conceived as mere quantity in relation to other quantities" (Patočka in press). Galileo's use of this method, however, remains devoted to solving concrete problems, and Patočka's account of the reason why he never did what his followers (above all Newton) did – namely, to formulate his method's basic principles, above all the principle of inertia – is based in his account of the sedimentation in Galileo's thinking of "the idea of the cosmos, the perfect world order he started off with the idea of understanding and [that he] is attempting to formulate mathematically" (Patočka in press). In such a cosmos material bodies have gravity, and "all motion in the world comes, directly or indirectly, from gravity, so that uniform rectilinear motion is impossible". Galileo was therefore incapable of "abstractly representing such a possibility [of rectilinear motion], for a body [on his view] without gravity would not be a material body (which shows [sedimented in Galileo's thought] a survival of the ancient distinction between mathematical and physical bodies") (Patočka in press).

Thus, on Patočka's account, it remained for others to apply Galileo's method "consistently", that is, *generally*, which application "does away with all 'hierarchy', banishes from the world all 'values', all purposes, all teleology, putting all being whatsoever on a level: everything is equally an object" (Patočka in press). It is on the foundation laid but not explicitly followed by Galileo that the second *Sinn* is sedimented in his achievement – a sedimentation already uncovered by Husserl but given more precision by Patočka; that is, more precision insofar as he delineates that the relegation of all qualitative phenomena to subjectivity already noted by Husserl is coincident with something else. What it is coincident with is the fact that "the 'subject' becomes something that is not integrated in this mechanical world as an equal part: it becomes a mere image, a replica of objective being; knowledge of the world is a kind of contemplation, not an action taken within being, since the world of quality, subject, values, etc., is driven out of true, mathematical-physical reality" (Patočka in press).

That Galileo's successors would therefore employ the foundations prepared by Galileo in the service of achieving the "perfect unity and harmony of the cosmos" (Patočka in press) to the end of a universal science whose "emphasis on formalization and operation" (Patočka in press) led to the opposite result – that is, to the end of the ancient cosmos – is significant for Patočka; because, as already mentioned, for him the end of the ancient cosmos is coincident with the "demise" of "the cosmos itself" (Patočka in press).

Because Patočka's account of the *Sinne* sedimented in Galileo's achievement is, like Husserl's accounts in the *Crisis*, fragmentary, the philosophical payoff promised by their "de-sedimentation" is not at all clear. So far as I can tell, neither the foundational program of an ontology of the pre-scientific life-world, including the epistemological–phenomenological project of excavating the "ground" of the cognition of the various sciences in the pre-given life-world, nor the exhortation to initiate a cultural renewal by somehow returning to the life-world, are sufficient to address the deeply felt nostalgia for the 'unity' between human meaning and the "cosmos itself" that was lost forever with the end of the ancient cosmos. In Husserlian terms, these phenomenological responses to the crisis of European sciences are incapable of "apodictically conquering the will" (Husserl 1970b: 18 [16–17])[4] in a manner that would function as a norm capable of rationally pointing in *the* direction out of the crisis. In what follows I shall argue that in addition to the de-sedimentation of the geometrical suppositions behind the Galilean foundation of mechanics, what also needs to be uncovered and de-sedimented is the sedimentation constitutive of the modern concept of 'unity' and indeed of the modern concept of number itself; in order to disclose fully the phenomenological implications of the loss of the 'unity' of human meaning with the cosmos coincident with the end of the ancient cosmos itself. My argument shall take the form of a demonstration of the pre-modern concept of unity that is sedimented in its modern concept; as well as a demonstration of its consequent de-sedimentation. Above all,

[4] English and [German Husserliana Vol.] page numbers, respectively.

the demonstrations to follow are intended to show the arithmetical nature of what is most fundamentally at stake for phenomenological *philosophy*, in the loss of unity that both Husserl and Patočka identify as a crucial aspect of the diminution of human meaning inseparable from the conceptuality of European sciences; a conceptuality that each thinker maintains is responsible for those sciences' crisis. And, in anticipation of the results of these demonstrations, I shall conclude that the de-sedimentation of the pre-modern meaning of 'unity' sedimented in its modern concept identifies a philosophically fundamental technical error in the constitution of the modern concept of 'unity'; an error whose recognition is capable of "apodictically conquering the will" and thus adumbrating a normative response to the crisis of European sciences that is grounded in reason.

Overview: Unity and Number in Ancient Greek and Modern Mathematics

Ancient Greek arithmetic employed a different concept of unity and number than modern arithmetic employs; indeed, these concepts in their ancient and modern guises are so different that it's better to say that what the Ancient Greek mathematicians understood the unity of a number to be and what modern mathematicians understand it to be are radically different. To begin with, for Ancient Greek mathematicians numbers were sharply distinguished from *concepts*; whereas the quintessential modern definition of number understands it to be the property of a *concept* – or, better, the set of all concepts having a common property. This difference is buttressed by another fundamental difference in the mathematical understanding of the Ancient Greeks and the moderns: namely, their understanding of what mathematics is in general and what arithmetic is in particular. For the Greeks a μάθημα (*mathêma*) is something that can be learned and understood, and that, once learned, is *known*.Ἐπιστήμη (knowledge) is therefore closely connected with the Greek understanding of 'mathematics', and the idea of mathematics in this sense is the paradigm for all Greek philosophy and science. Greek arithmetic, as a learning matter, is concerned above all with two fundamental problems: what is the nature of things insofar as they are counted, and in what sense is the number of those things a unity? These problems are very remote from *our* arithmetic, which concerns the *practical* art of calculation. Nowadays these two questions raised by Ancient Greek arithmetic are dealt with by number *theory*; which brings me to a second crucial point, namely, the question of what is involved in the philosophical problem of *foundation* as it relates to mathematics.

That there *have* to be more profound *reasons* for the truth of what, in the case at hand, the science of mathematics claims and therefore pretends to know, was taken to be evident because of paradoxes or outright contradictions discovered by *reason* in the basic concepts of arithmetic. In the case of Ancient Greek arithmetic, the fact that number denotes both *many* things together with their *unity* as exactly so many

was recognised to rest on a profound contradiction: namely, that of one and the same thing – number – being both many and one and therefore combining in its very *being* qualities that human speech must recognise for all time as uncombinable opposites.[5] In the case of modern number theory, the expansion of the number domain in 'universal analysis' or 'universal arithmetic' beyond natural numbers, to include irrational numbers, negative numbers, imaginary numbers, and so on, raised the problem of how to understand these non-natural numbers as *numbers* at all; that is, as units of measure – quantities – that provide an answer to the question: how many?

The Problem of Foundation in Pythagorean Arithmetic

An account of the problem of foundation in ancient arithmetic has to begin with those sixth-century B.C. mathematicians who were later referred to by the Greeks collectively as the 'Pythagoreans'. Contemporary philosophy and mathematics textbooks sum up their contribution to human thought as the theory that 'the essences of things are numbers'. So long as one understands numbers to be abstract concepts, this statement is meaningless. It is closer to what the Pythagoreans are reported to have thought to render their contention like this: 'everything that we see or hear can be counted'. This statement is as remarkable as it is false, although its falsity is noteworthy, because it is coincident with the discovery of incommensurable magnitudes (incommensurables). All things perceivable by the senses, especially visible things, were the things counted by the Pythagoreans. By counting they understood the process of adding one thing and another one and another one, and so on, until coming to a rest; when their number was expressed with words like five, seven, hundred, and so on. Each of these words expresses what the Greeks called an ἀριθμός (number), by which they understood *a definite amount of definite things*. This meaning of ἀριθμός didn't change for all subsequent Greek mathematics and philosophy, and until the sixteenth century it remained the meaning of the Latin word '*numerus*'.

Of the two things already mentioned as the concern of Greek arithmetic – the question of the nature of counted things, and the sense in which their number is a unity – the Pythagoreans focused on the second. The counted things signified by

[5] As the following quote demonstrates, Kurt Gödel likewise recognised the contradiction the Ancient Greeks saw at the heart of arithmetic: "A set is a unity of which its elements are the constituents. It is a fundamental property of the mind to comprehend multitudes into unities. Sets are multitudes which are also unities. A multitude is the opposite of a unity. How can anything be both a multitude and a unity? Yet a set is just that. It is a seemingly contradictory fact that sets exist. It is surprising that the fact that multitudes are also unities leads to no contradictions: this is the main fact of mathematics. Thinking [a plurality] together seems like a triviality: and this appears to explain why we have no contradiction. But 'many things for one' is far from trivial" (Wang 1996: 254).

their number are in every case *many* things while at the same time their multitude is comprehended by means of its number as composing *one* group – or as would be said today, '*one* set' – of things. Precisely this, the *foundational* problem of what is responsible for *many* things being grasped as *one*, is what the arithmetic of the Pythagoreans sought to resolve. It did so by classifying numbers according to their εἴδη (Forms or Species), such as Odd and Even, square, cube – to cite some of the Forms discovered by Pythagorean arithmetic that remain a part of the terminology of arithmetic to this day. Unlike the many things that are determined by a number's exact amount, the Forms of numbers are one in themselves: thus there is only one Form of the Odd, one Form of the Even, even though there are unlimitedly many odd and even numbers. In addition to these familiar Forms of numbers, the Pythagoreans classified numbers according to geometrical Forms made visible when each counted thing was represented by a pebble or dot, beginning with *one* such representation, to which various configurations of dots were added to produce similar figures of the following kinds: triangular, square, pentagonal, and so on. The numbers configured by these similar figures were called by these figures' names – e.g. triangular numbers, square numbers, pentagonal numbers, etc. – and these figures were therefore understood be the cause of the many pebbles or dots nevertheless being comprehended as 'one'. Thus, for instance, six things can be conceived as 'one' group, namely, as 'six', because the Form triangle causes these six things to be one. So, too, however, can ten things be conceived as 'one' group, namely, as 'ten', because the same triangular Form causes them to be one.

The Pythagorean attempt to solve the puzzle of the one-and-many composition of numbers thus introduced a distinction that is as crucial as it is fundamental, namely the distinction between the *being* of number – i.e. a multitude of things in the sense of their exact amount – and the *non*-numerical εἶδος (Form or Species) of that being, which, because it is itself precisely one and *not* many, is *not* numerical in its being. Using today's terminology we could say that Pythagorean arithmetic distinguished *numbers* from the *concepts* of numbers, although this distinction becomes difficult to think by anyone who assumes that what numbers themselves really are is concepts. We'll have occasion to return to this last crucial point, but for now need to stress two more important aspects of Pythagorean, and indeed of all, Greek arithmetic. The first aspect is that because they understood by 'ἀριθμός' an *amount* of something – that is, precisely how *many* of them there happen to be – 'two' is the first number in Greek arithmetic. Related to this is the second important aspect of Pythagorean arithmetic: that one is not considered to be a number but rather to be the 'root' (πυθμήν), the 'source' or 'ruling beginning' (ἀρχή)[6] of number.

[6] NB: The standard translation of *ἀρχή* as 'first principle' occludes the distinction, crucial not just for Greek arithmetic but for any science of numbers, made by the Pythagoreans between the Form of numbers and the numbers themselves. 'One', as the *ἀρχή* of number, is precisely *not* a concept or principle (first or otherwise) of number but its most basic element; as such, it belongs not to its Form but to its numerical *being*.

The Pythagoreans understood the different Forms or Species of numbers as their 'natural' order and they understood all things, and especially all visible things, to be numbers whose nature is the determinate Form responsible for their unity. Pythagorean 'arithmetic' was therefore not merely a 'mathematical' discipline in our sense of the word but also a science of the visible universe and thus a *cosmology*; the science of the unity and order of our universe. The Pythagoreans expanded their cosmological arithmetic further, to investigate the relations between the Forms of numbers and the numbers themselves, by relating all audible things and audible sounds to *ratios*, *proportions*, and to their forms and properties. Out of this arose what the Ancient Greeks called 'logistic', the science of ratios and proportions, which brings the numbers of things into relation with each other, and which remained the basis of all calculation until the invention of ancient and mediaeval algebra.

The Platonic Attempt to Solve the Problem of the Foundation of Arithmetic

The Pythagorean solution to the foundational problem of arithmetic, namely, to the problem of the unity of a number, is therefore the εἶδος. This solution is one of the sources of Platonic philosophy. Indeed, in one of Plato's dialogues his Socrates speaks of the "astonishing proposition that one is many and many are one" (Plato 1997b: 14c); a proposition he characterises "as a gift of gods to men" (Plato 1997b: 16c). But Plato went much further than the Pythagoreans in dealing with this problem. On the one hand, he took up the question of the nature of things that allows them to be counted, which, as we've seen, the Pythagoreans didn't focus on. On the other hand, he took issue with the supposition guiding the Pythagorean account of the Forms of numbers, that these Forms are capable of explaining the numerical *difference* between different numbers.

Regarding the first question raised by the understanding of number as a definite amount of definite things, Plato investigated what exactly the number itself is by means of which we count stars, cattle, soldiers, virtues, and so on. When we count 'four' stars, 'four' cattle, 'four' soldiers, 'four' virtues, Plato argued, this 'four' is obviously not limited to stars, cattle, soldiers, virtues – which is to say, the 'four' definite things are neither stars, cattle, soldiers, virtues, nor any other determinate things apprehended by any or all of our five senses. Our very ability to count, for Plato, must therefore presuppose that the numbers we use to count refer not to these determinate things with sensible qualities but to things that are only conceivable by our intelligence. That is, we can count any number of any kind of things, in this case, 'four' stars, cattle, soldiers, virtues, because another kind of number, composed of multitudes of things whose qualities are invisible to our senses and therefore *intelligible*, are already available to our intelligence before we begin counting the multitudes of those things that have sensible qualities. The multitudes

of things composing intelligible numbers have the following qualities: changelessness, because unlike things with sensible qualities, intelligible things remain forever the same; absolute equality, because each intelligible thing in the multitude conceivable only by our intelligence is nothing but one; and indivisibility, because what is absolutely one cannot be partitioned, as dividing it would make it more than one. In a word, the human capacity to count is only possible if definite amounts of multitudes of 'pure' units, that is, 'pure numbers', are made available to the human soul before it begins to count the number of whatever kind of thing it happens to count. The Pythagorean foundation of arithmetic – the Forms of numbers – must therefore, according to Plato, have as its foundation the multitude of pure units that compose the source of the pure numbers presupposed by counting.

The new perspective on the nature of the things counted by arithmetic provided by Plato's 'purification' of the Pythagorean arithmetic leads, in turn, to a criticism of the Pythagorean answer to the question of how many things can form *one* number. For now the things in question are the 'pure' units, and so the question has to be reformulated: how can many pure units form one number? As we have seen, despite their function to unify the many sensible 'ones' that compose for them each number, the Forms of the Pythagoreans are alien to the numbers themselves. This is the case because as unitary, that is, as *one*, these Forms lack the multitude that is inseparable from the *being* of number. Thus these Forms don't explain the differences between the different numbers united by the same Form. For instance, as we have seen, in Pythagorean arithmetic, both the number 'six' and the number 'ten' are unities of six and ten things respectively, because when these things are represented by dots they have the Form triangle. For Plato, however, neither this Form nor the Form 'Even' can explain the nature of the difference between the form of unity of six pure units and the form of unity of ten pure units. This is because the arithmetical Forms (or arithmetical concepts) of 'unity' and 'multitude' cannot account for the *differences* in the unity of multitudes expressed by the different numbers: both 'six' and 'ten' are the unity of a multitude of pure units, but their *natures* as numerical unities are different, because 'six' is smaller than 'ten', and also because of this it is prior to it in the natural order of numbers. According to Plato, because the concepts of arithmetic cannot account for the *real* differences between numbers, arithmetic cannot sufficiently explain itself. That is, the concepts of arithmetic cannot explain its *foundation* as a science, because these concepts are incapable of explaining its most basic elements: numbers.

On Plato's view, only the concepts of philosophy can account for the scientific foundation of arithmetic; that is, for the true sources of the unity of any number. Thus while Plato thinks, like the Pythagoreans did, that these true sources are to be found in the unity of a multitude provided by εἴδη (Forms), the Forms that for Plato are the sources of numerical unity are not the different classes of numbers (e.g. Odd, Even, prime, square, etc.) but the very Forms of the numbers themselves. That is, for Plato, in addition to the unlimitedly many mathematical numbers there is a limited multitude of Ideal numbers that account for the mathematical being of the different unities of the multitudes composed by mathematical numbers. Therefore Plato's solution to the arithmetic puzzle of how number can be both many and one

is to posit Ideal numbers that possess a differentiated one-and-many structure that provides the paradigm for the one-and-many structure of any mathematical number and therefore of each *different* number – and not the converse. In other words, for Plato only the concepts of philosophy are capable of providing the mathematical science of arithmetic with the foundation it needs in order to be scientifically complete.

Before considering in more detail how Plato understood Ideal numbers to provide the solution to the arithmetical problem of providing a foundation for the real difference between numbers, however, a word of caution needs to be sounded. There is a view, as widespread as it is false, that Plato's dialogues present a 'Theory of Ideas (of Forms)', and that this theory entails the thesis that there are two worlds, one of which is an other-worldly, intelligible world and the other the sensible world of physical things. According to this view, the things in the physical world are the pale and imperfect 'imitations' of their ideal exemplars in the intelligible world. Finally, according to this view, Plato's theory is fatally flawed, because it doesn't provide a satisfactory answer to the question of how exactly the physical things in the sensible world are related as 'images' to the Ideas in the intelligible world. This problem is known by a word that is indeed found in Plato's dialogues – 'participation' (μέθεξις) – but, as we shall see, it is understood in a way that fundamentally distorts what one really finds in those dialogues.

This mistaken view of Plato's understanding of Ideas has its basis in a superficial understanding of the criticism of Plato's philosophy advanced by Aristotle, in the presentation of his (Aristotle's) own philosophy of Forms. And while it is true that Plato's dialogues refer to the relation between sensible things and the Ideas of these things as the former's 'participation' in the latter, there is no instance in any work of Plato's where either the Forms are posited as existing *independently* or *separately* from the things in the sensible world, or where these latter, sensible things are characterised as existing in isolation from one another and therefore as being 'singular' or 'particular'. On the contrary, inseparable from Plato's account of Ideas is the problem of accounting for the unity of a *multitude* of things, whether those things are perceived by the senses – for instance, the unity of a swarm of bees – or apprehended only in thought – for instance, the unity of actions that are virtuous. That is, the very problem that we've already seen is at the root of Plato's account of the need to posit Ideal numbers as the foundation for arithmetic's most basic element – number – is also at the root of the participation problem in his account of Ideas. Thus not only is Plato's account of Ideal numbers his solution to the problem of the foundation of arithmetic; it also holds the key to solving the great problem of participation.

In Plato's dialogue the *Phaedo*, Socrates holds that the cause of ten things exceeding eight things is *not* the number 'two' but "multitude" (πλῆθος) (Plato 1967: 101a). He also holds that the adding of a one to a one is not the cause of the one becoming two but that there isn't "any other cause of it becoming two (δύο) than its participation in the dyad (δυάδ)" (Plato 1967: 101c). Moreover, Socrates maintains, "whatever's going to be one (ἕν) must participate in the monad (μονάδος)". In Plato's dialogue the *Greater Hippias* Socrates pursues the

distinction made here in the *Phaedo* between 'two' and a multitude of ones, as he proves that it's possible in the cases of number and the Pythagorean Forms of number for something that is common to two things not to belong to either of them. Because for many things this is not the case, the mathematical nature of these exceptions will stand out. Non-exceptional cases include Socrates being just, healthy, wounded, golden, silver, and so on, and Hippias being just, healthy, wounded, golden, silver, and so on; as each would have these qualities in common and also as their individual possessions (Plato 1997a: 300e–301a). In the case of number and the Odd and the Even, however, what Socrates and Hippias have in common, neither possesses individually. Thus with regard to number, what *both* Socrates and Hippias are when considered together, neither is when considered separately. Only both are two, because each is exactly not two but only one. Thus the quality they share in common – *two* – neither alone possesses. Likewise, with respect to the Forms of number, because Socrates and Hippias are both two, they have the quality of Even in common, as they can be divided equally, without the source (ἀρχή) of Oddness – the one – being left over. However, because each is precisely not two but one, Socrates and Hippias considered individually are not Even but 'one' and therefore indivisible.

These exceptional cases of something in common *not* characterising the things that have them in common inevitably raises the question: *where* is this common quality? Is the 'two' something separate from the single things, as it were 'alongside' or 'outside' them? (We must remember that in asking about where the 'two' is we're not asking about where the mathematical symbol '2' is, since in itself this cipher is meaningless.) Plato's dialogue the *Sophist* presents the key to resolving this question, when its two interlocutors – an unnamed stranger from the city of Elea who is a philosopher, and a mathematician named Theaetetus – discover the paradigmatic case of a common quality shared by two things that neither taken singly possesses (Klein 1992).[7]

The investigation of the Philosopher and Mathematician, *both together* – an investigation that for Plato is paradigmatically 'dialectical' – points the way to the resolution of the question of where the common quality that composes number really is. It does so when their attempt to *count* the parts of Being fails because those parts are not analogous to the parts of arithmetical numbers; that is, to the multitude of 'pure' (intelligible) ones that, as we have seen, compose the mathematically 'pure' numbers presupposed by the science of arithmetic. This is made apparent by their discussion of what the Philosopher calls the "Greatest Forms", namely, Rest, Motion, and Being. Being is established as nothing but Rest and Motion, which raises the question whether the number of these Forms is two or three. Giving an account of the answer to one of the most fundamental questions of philosophy – 'what is Being?' – therefore turns out to enlist the service of numbers, the most basic elements of arithmetic.

[7] German edition: Klein 1936; 1934. See also Hopkins 2011: Ch. 19.

However, mathematical numbers don't prove to be up to the task of being able to enumerate Being and its parts, because when Rest is counted as one, Motion as another one, and then Being as a third one, their number adds up to three. But just this is completely impossible; namely, that Being count as another Form 'outside' of Rest and Motion. This is the case because whatever *is* has to be either at rest or in motion, and thus has to have the qualities of Rest and Motion, which are not three things but precisely 'two' – albeit they are 'two' in a manner unlike the manner two things in a mathematical number are two. As we have seen above, the numbers that are the foundation of arithmetic have as their parts identical ones. The parts of the Form of Being, Rest and Motion are not only not identical but are also completely opposite – even though they are still unities; because all resting and moving things have and therefore are identified, respectively, by their qualities. Nevertheless – and this is Plato's crucial discovery – just as the Form Being is not some third thing 'outside' of the Forms Rest and Motion, but precisely those Forms together, so, too, for instance, is the number two not some third thing 'outside' of the units it unifies as 'two', but exactly both units together. Plato's technical word for the way a mathematical number or the Form of Being unifies respectively the units or Forms that are their parts is "community" (κοινωνία).

The *community* structure of Being and mathematical number, which is the same insofar as Rest is not Being just as Socrates is not 'two', and Motion is not Being just as Hippias is not 'two', provides the basis of Plato's teaching that the Forms are Ideal numbers; a teaching whose details we know about mainly through Aristotle's criticism of it. And the difference between the parts of Ideal numbers and the parts of mathematical numbers provides the basis for Plato's teaching that the foundational problem of arithmetic has as its solution mathematical numbers' participation in Ideal numbers. The real difference between the different unities of the multitudes of the units that form each number is therefore accounted for by Plato on the basis of the structural community of the Forms with their parts, beginning with the community of Being with Motion and Rest. Because these parts – unlike the parts of mathematical numbers – are different from each other and indeed radically so since they are complete opposites, they are "incomparable (ἀσύμβλητοι)" (Aristotle 1941: M, 1080a 1019) and therefore unique. Thus the community of Being, with its unique parts, forms the Ideal number TWO, the *dyad*; which owing to the uniqueness of its parts provides the paradigm and thus foundation for the unity of the mathematical number 'two'. This is to say, any one among the unlimited mathematical twos that there happen to be possesses its specific unity as exactly 'two' – as opposed to 'three' or 'four' or any other number – on the basis of its relation to the paradigmatic Ideal TWO of Being.

Aristotle's Critique of the Platonic Solution to the Foundation of Arithmetic, and His Own Solution

According to Aristotle's report, Plato taught that there were nine Ideal numbers, with the *dyad* being the first Ideal number and the *decad* the last, since, as mentioned, one is not a number in the arithmetic of the Ancient Greeks. And, as also mentioned, Aristotle's report is embedded in his criticism of Plato's philosophical solution to the problem of the foundation of arithmetic. Aristotle's criticism has three foci, all of which have exerted tremendous influence in the history of human thought, including the thought behind Husserl's and Patočka's desedimentation of the Galilean mathematisation of nature.

The first focus concerns Plato's account of 'participation'. Aristotle does not, as is commonly but mistakenly thought, reject outright Plato's view that things participate in the Forms; but rather he rejects Plato's claim that these forms are "separate (χωρισμός)" from these things. Therefore, for Aristotle there is no "one-over-many (ἓν ἐπὶ πολλῶν)" (Aristotle 1941: 991a–992) unity of a Form, which means in the case of the Form of the *dyad* that the 'dual' is *common* to both the intelligible 'two' and the things that share in it. Aristotle accuses Plato's formulation of the relationship involved in participation as duplicating the world, because by employing the metaphorical language of 'image' and 'imitation' to characterise this relation, Plato introduces a duality – in the case at hand, the 'dual' of things that are 'two' and the 'dual' of the *dyad*, that is, the 'two itself' – where only the being-dual is *common* to both the *dyad* and any two things.

The second focus of Aristotle's criticism of Plato is related to this first, as Aristotle denies that there is any unity in a number of things. The word we pronounce when we've finished counting signifies *many* things and therefore isn't itself one at all. The 'community' of the multitude of the units counted doesn't mean that their number is itself a unity. The only unity connected with number is that of the unit that is repeated in the process of counting; i.e. one apple and one apple, which, in the case of two apples or six apples, is 'apple'.

Finally, the third focus of Aristotle's criticism of Plato is related to these first two. Not only is there no 'one-over-many' unity of the Forms in relation to the things that share in them or of the number in relation to the units that compose it, for Aristotle; but also the 'purity' of the intelligible units that Aristotle agrees are indeed the foundation of arithmetic does not consist in their being *separate* from the sensible things with which arithmetic also deals. Rather, the Platonic view of the separate existence of the pure units presupposed by the availability of numbers to the soul before it begins counting is the result of the soul being seduced by this advance availability into thinking that what follows from it is that these units exist independently of the counted things. The truth for Aristotle is rather that the applicability of these intelligible units to all sensible beings is the result of "abstraction (ἀφαίρεσις)". By "abstraction", however, Aristotle does not understand what it has come to be understood as, namely, a *psychological* account of the soul's supposed capacity to 'lift off' universal ideas from particular things or their

images. On the contrary, Aristotle's account of abstraction (which is limited to mathematics) presents it, in the case of arithmetic, as a *logical* process of disregarding the properties of sensible things until all that is left *for thought* is their *arithmetical character* of 'being-one'.

Whatever the problems there are with Plato's account of the philosophical foundation of the mathematical science of arithmetic having its basis in Ideal numbers, it is apparent that Aristotle failed to see the problem that Plato was trying to solve: namely, that of the real difference between the different numbers. Just as the Pythagorean appeal to the Forms common to numbers is unable to account for the difference between different numbers unified by the same Form, so, too, Aristotle's claim that the only unity associated with number is that of the unit used in the counting that generates it is unable to account for the different numbers that would have that same unity. That is, just as the Pythagorean explanation of the unity of the numbers six and ten on the basis of their sharing the common figure triangle doesn't address the specific difference of the unity 'six' and the unity 'ten', so, too, Aristotle's explanation of the unity of two apples and six apples on the basis of the common unit 'apple' doesn't address the specific difference of these two numbers.

Philosophical Problems in the Foundation of Modern Arithmetic

Now, shifting the discussion to the problem of the foundation of arithmetic in modern arithmetic, what has to be established from the outset is that the modern understanding of the basic element of arithmetic – number – is inseparable from the historical origin of François Viète (Latin: Vieta) of Fonenay's invention of the "Analytic Art (*Artem Analyticen*)"[8] for Princess Mélusine (Catherine of Parthenay, 1554–1631) in 1591. To this day this 'art' functions as the *sine qua non* for the formalisation that makes modern mathematics possible and therefore composes its *foundation* (see Klein 1992; Hopkins 2011).

Vieta presented his analytical art as "the new algebra" and took its name from the ancient mathematical method of "analysis", which he understood to have been first discovered by Plato and so named by Theon of Smyrna. Ancient analysis is the 'general' half of a method of discovering the unknown in geometry; the other half, "synthesis", being 'particular' in character. The method was defined by Theon like this: analysis is the "'taking of the thing sought as granted and proceeding by means of what follows to a truth that is uncontested'". Synthesis, in turn, is "'taking the

[8] Francisci Vietae, *In Artem Analyticem* (sic) *Isagoge*, Seorsim excussa ab opere restituate Mathematicae Analyseo, seu, Algebra Nova (*Introduction to the Analytical Art*, excerpted as a separate piece from the *opus* of the restored Mathematical Analysis, or *The New Algebra* [Tours, 1591]). English translation: Vietae 1992.

thing that is granted and proceeding by means of what follows to the conclusion and comprehension of the thing sought'" (Vietae 1992: 320). The transition from analysis to synthesis was called "conversion", and depending on whether the discovery of the truth of a geometrical theorem or the solution ("construction") to a geometrical problem was being demonstrated (ἀπόδειξις), the analysis was called respectively "theoretical" or "problematical".

Vieta's innovation involved understanding a novel form of arithmetical analysis found in the recently rediscovered third-century text (titled simply *Arithmetic*) of Diophantus of Alexandria as a procedure that is completely parallel to geometrical analysis. This permitted Vieta to treat the sought-after and therefore unknown numbers – understood as unities of multitudes of units – as already granted in their *species*. By the *species* of numbers he followed Diophantus's designations in his *Arithmetic*, e.g. square, cube, square-times-cube and cube-times-cube. To the species of each of these unknown and therefore indeterminate quantities as well as to the species of every known quantity he assigned what he called an "everlasting and very clear symbol" taken from the alphabet (vowels to the known and consonants to the unknown). This allowed both the *possibility* of there being given a determinate amount of units (that is, a number in the pre-modern and therefore non-formalised sense) to be apprehended in a manner that functioned as if it were *actually* given and it also allowed known numbers to be expressed by their species. With this, the arithmetical need for an analogue to the second part of the geometrical method of analysis, the theoretical or problematic conversion of the synthesis that proved a *particular* theorem or solved a *particular* problem, was dispensed with by Vieta, which made possible for the first time the "analytic" – that is, indeterminate and therefore 'general' – solution to arithmetical problems. Three significant results follow from Vieta's innovation. Firstly, the geometrical distinction between the kind of object presented in a theorem and in a problem falls away, such that in the analytic art theorems are equated with problems and with this the synthetic distinction between the 'theoretical' and 'problematical' dissolves. Secondly, the exclusive calculation with the *species* of known and unknown numbers made possible by Vieta's analytic art – what he terms "*logistice speciosa*" – is employed by him in the service of "pure" algebra, and therefore applied indifferently to finding unknown numbers and to finding unknown geometrical magnitudes (which are measured by numbers). And, thirdly, because the *logistice speciosa* has but a small interest in the determinate results of the solutions to its calculations – what Vieta terms the "*logistice numerosa*" – the artful procedure of Vieta's analytic method is conceived as a general auxiliary method whose purpose is not to solve problems singly but to solve the problem of the general ability to solve problems. Characterised by Vieta as "the art of finding, or the finding of finding", the general analytic is an *instrument* in the realm of mathematics analogous to the sense in which Aristotle's *Prior and Posterior Analytics* are presented as an *organon* in the realm of all possible knowledge. In this regard, Vieta's conclusion to his *Analytic Art* is telling: "[T]he analytic art. . .appropriates to itself by right the proud problem of problems, which is: TO LEAVE NO PROBLEM UNSOLVED" (Vietae 1992: 353, capital letters in original).

Vieta's method is recognised by historians of mathematics to be coincident with the invention of the mathematical formula and the first modern axiom system, whereby the syntactical rules of mathematical analysis 'define' the object to which they apply. But it is also coincident with something about which historians of mathematics and philosophers alike remain to this day ignorant: the transformation of both the mode of being of the foundational concept of arithmetic – number – and with this, the transformation of the mode of being of the objects of mathematics in general, together with the transformation of the process of abstraction that generates the formal concepts operative in the system of knowledge in general.

Vieta's innovation contains three interrelated and interdependent aspects. Firstly, there is its *methodical* innovation of making calculation possible with both known and unknown indeterminate (and therefore 'general') numbers. Secondly, there is its *cognitive* innovation of resolving mathematical problems in this general mode, such that its indeterminate solution allows arbitrarily many determinate solutions based on numbers assumed at will. Thirdly, there is its *analytic* innovation of being applicable indifferently to the numbers of traditional arithmetic and the magnitudes of traditional geometry.

The philosophical significance of this first innovation is the *formalisation* of number and thus of its concept; such that number no longer signifies, as we have seen that it did in Greek arithmetic and in mathematics generally prior to Vieta's innovation, a "multitude composed of units" (Euclid, Book VII, def. 2); but rather number now signifies the *concept* of such a multitude in the case of known numbers and the *concept* of a multitude as such (or in general) in the case of unknown numbers. The formalisation of number and of its concept can be grasped neither by Aristotelian abstraction nor by Platonic dialectic.[9] This is because *formalised* number is neither the product of the abstraction that yields the unit that functions to measure a multitude of items, as it is for Aristotle; nor the Ideal unity of such a multitude that is grasped by dialectic as being irreducible to the items it unifies once the sensible suppositions of the mathematicians are left behind, as it is for Plato. Rather, number for Vieta is the result of the conceptual process of ascending from the mind's unmediated and therefore direct relation to multitudes of items to its relation to its own apprehension of this unmediated and direct relation; while simultaneously identifying these two modes of relation. This simultaneous identification of heterogeneous 'relations', namely of (1) the real relation to a multitude of concrete things and (2) the cognitive relation to the concept of this multitude, is exhibited by the meaning assigned by Vieta both to ordinary number signs and to his algebraic letters. And it was exhibited and therefore manifest for him as it is for us every time a sense-perceptible letter is intuited *as* – and not simply as *signifying*

[9] Thus the attempt, for instance Patočka's, to capture the difference between the ancient and modern concepts of number in terms of "the much more abstract character" (Patočka in press) of the modern concept falls short of the mark of the difference in question; which, as we have seen, cannot be measured in terms of degrees of abstraction but only captured in terms of the transformation of the basic unit of arithmetic from a determinate multitude to the *concept* of such a multitude.

– the general concept in question; whether that concept be of this or that number – for instance, *the concept of any 'two' in general* or the *concept of any 'number' in general*. What is manifest in this intuition of *at once* a sensible mark and a general concept is precisely Vieta's invention of the mathematical *symbol*.

The foundational problem that follows from the analytic innovation of Vieta's method concerns the derivation of the syntactical rules that govern the axiom system and establish the systematic context that defines the indeterminate objects to which they apply. Vieta established these rules on the basis of the "*logistice numerosa*" and thus in calculations with determinate amounts of monads, which is to say, in calculations with the 'natural' and therefore non-symbolic numbers dealt with by Ancient Greek arithmetic. This is what allows letter signs with no numerical properties to nevertheless have a numerical significance in the *logistice speciosa* and in the new algebra for which it is the foundation. Vieta, however, conceptualises these multitudes composed of units at the *same time* from the perspective of their symbolic presentation. One significant result of this is that both number and its general concept attain an equivocal status in mathematics and the philosophy of mathematics, oscillating between its indeterminate and therefore general symbolic significance as 'number in general' and its pre-formalised *natural* significance as a multitude composed of units. This equivocity is perhaps nowhere more evident than in the schematism in Kant's critical philosophy, where 'number' provides the first illustration of a schema understood as "a general procedure of the imagination for providing a concept with its image". Thus, for Kant, the empirical image of number, for instance, points in a row – five in the case of the number five (. . .) – is distinguished from its schema in the thinking of "a number in general, which could be five or a hundred". One cannot find a better articulation of the equivocity of number in question here than in Kant's claim that the latter "thinking [of number in general] is more the representation of a method for representing a multitude (e.g. a thousand) in an image in accordance with a certain concept than the image itself" (Kant 2000: 180).[10] The irony of Kant's appeal to an instance of intensive magnitude – which is determined by the sliding scale of "more and less" – to characterise the transcendental mode of being of the paradigm of exact quantity cannot be formalised, let alone quantified, but it is nevertheless very real and runs deep (see Hopkins 2013).

It is precisely this temporally dated and therefore historically conditioned equivocity of number, and therefore the historically conditioned equivocity of the *apriority* inseparable from this most basic concept of arithmetic and indeed mathematics generally, that Husserl sought to resolve in his first major work, *The Philosophy of Arithmetic* (Husserl 2003). He did so by attempting to account for the origin of the logical objectivity of the formalised general concept of number in an idealising extension of the psychological activity that generates non-formalised numbers (i.e. the determinate amounts of units that defined number in pre-modern mathematics).

[10] German edition: Kant 2001: A140/B179.

As is well known, Husserl's attempt to ground the logical objectivity of the concept of number employed in the symbolic calculus of universal analysis in the psychological phenomenon of "collective combination" ended in self-acknowledged failure. However, less well known is the fact that Husserl never managed to resolve either of the mathematical problems that *The Philosophy of Arithmetic* failed to resolve psychologistically: namely, that of the foundational nature of the unity of both determinate and general numbers; and the foundational nature of their mathematical relationship (Hopkins 2006). The common view, that the pure logic developed in Husserl's *Logical Investigations*, and more specifically, the descriptive phenomenological foundation of this logic in categorial intuition, is capable of providing logical foundations for either of these mathematical relations, is wrong. In the case of the foundation of the 'collective unity' of pre-formalised numbers, the categorial distinction between logical 'species' and their 'instances' merely substitutes one philosophically unsuitable solution – psychologism – for another one – logicism. This is the case because so long as the 'collective unity' of a multitude is held to have its foundation in the *concept* of the 'species' of that multitude, the problem of the unity of a non-conceptual manifold is in no way resolved but simply shifted to a higher level; i.e. to the problem of providing the foundation for the conceptual unity of the manifold presupposed in the extension of the concept of 'species' (or the logically equivalent concept of class) supposedly providing the foundation of the unity of the original manifold. Thus with respect to the problem at hand: to say, as Patočka says in following Husserl's *Logical Investigations* and in thinking thus that he is resolving it, that "the number five is not my counting to five, nor someone else's counting, nor is it my or some else's conceptualization of five; it is a *species*, a generality, an *ideality* which is realized or given in the individual *instance* of a class of five members" (Patočka 1996: 35) doesn't resolve the issue. And, again, it doesn't do so because the foundation of the unity of the manifold composed by the "class of five members" is in no way provided but simply presupposed as unproblematically given in this account (Hopkins 2011: Ch. 32).

A second significant result of the equivocity of numbers and their concepts in Vieta's foundational innovation of the analytic method occurs when Gottlieb Frege attempts to solve the problem that the equivocity of numbers presents to the foundational problem of arithmetic, by completely doing away with non-formalised numbers in the logical reformulation of arithmetic. With this, number and the concept of number become identical, as number itself is now defined as an assertion about a concept; or more precisely, it is defined in terms of the structure of certain conceptual relations – an thus in terms of a 'syntactical' definition. The *real* problem that Frege's numbercide gives rise to, however, is how does the one-to-one correspondence between the elements of two sets that for him is foundation of the definition of number, what he calls "equinumerosity" (Frege 1996: §§71–72), account for the *real* difference between numbers?

The 'numerical' property that defines number as a predicate of a concept – for instance, 'nine' as the number of the concept of planets in our solar system – is understood as the property of being *instantiated* 'nine' times. Because not only the

concept of planets has this property, but also the concepts of inning, holes on a par three golf course, and so on, the number nine is defined as the *set* of all concepts with the 'equinumerous' property of being instantiated 'nine' times. But to the question of what it is in the different one-to-one correspondences of the elements in the sets that compose the difference between the different numbers – i.e. what it is in the conceptual *quality* of being equinumerous that determines the difference between the numerical properties of six and ten as the *quantitative* properties of having just, for instance, six or ten items that 'fall under' the concepts in question – the conceptual definition of number can provide no answer. This is because the one-to-one mapping that defines equinumerosity *presupposes* rather than establishes the properties of, in the case at hand, being instantiated just *six* or just *ten* times.

The de-sedimentation of the meaning sedimented in the modern concept of number thus establishes that the problem Plato saw ancient arithmetic was unable to solve on its own terms – namely, that of how to account for arithmetic's foundational supposition that the unities of different numbers *really* are different – remains unresolved in the modern attempt to logicise number. Therefore the most basic concept of the mathematics that made modern physics *possible* and in so doing brought about the *actuality* of the end of the ancient cosmos – and thus of that world in which the human being was recognised as having the power to function as an integral part – remains to this day without a foundation. This de-sedimentation has also identified the philosophically fundamental technical error behind the failure of the conceptuality of the modern logic born from the thigh of Vieta's innovation in mathematics to be able to account for the 'unity' of the most basic concept of the mathematics that is responsible for the loss of that world: the error, namely, of the unwitting substitution of the *concept* of a multitude for its (the multitude's) determinate *being* as the basic 'unit' of arithmetic. As we have shown, the technical nature of the error involved here is strictly speaking not mathematical but philosophical, since with the identification of the 'concept' of a very specific 'being' – the determinate being of a multitude – with that being itself, the philosophical need to provide an account of the foundation of the being in question (determinate multitude) is *seemingly* obviated. But as we have also shown, the philosophically foundational problem of the 'unity' of a determinate multitude does not go away just because the mathematics at issue is incapable of recognising this as a problem. That the solution to this problem – the problem of the true nature of the 'unity' that binds at first two and then a multitude of things into a unity – is not something that was known prior to the advent of Galilean science but rather is something that then as now awaits a solution should be sufficient to accomplish the following: to cure us of any nostalgia for the 'unity' of the ancient cosmos, the 'demise' of which Galileo unwittingly prepared the self-styled 'true' modern science of nature to bring about. And the *knowledge* that the 'unity' in question remains unknown should be sufficient to conquer apodictically our wills with the sole rational norm capable of pointing in the direction of *the* solution to the crisis of the European sciences: that is, to the norm born of the unshakable phenomenological recognition that the nature, let alone the source, of the 'unity' presupposed by all human pretension to know is – at least so far in human history – something that remains fundamentally *beyond* what that pretension is capable of realising.

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Time in 'Negative Platonism'

Pavel Kouba

Abstract In his polemic against contemporary philosophies of time, Jan Patočka tries, within the framework of his project of 'Negative Platonism', to sketch out a conception of temporality as a stance at the edge of an already completed past and a transcendent, 'wholly other' future. The offered contribution seeks, firstly, to show the problematic character of this conception on the grounds that this stance, and thus also time itself, is exclusive to humankind; all other Being, animate as well as inanimate, being in time only in a mediated manner. Secondly, it seeks to point out an alternative view, assumed partly by Patočka himself in his explication of space. Finally, it indicates the more general problem arising out of philosophy's separation of the future from the past, of time from space and of the thing from the world.

Keywords Patočka • Heidegger • Nature of time • Future • Time in nature

§1

Towards the beginning of the 1950s Jan Patočka was working on a systematic outline of his own philosophical conception, in which he intended to connect the fundamental issues (of history, nature, truth, the subject and others) that had been preoccupying him up to this time. One part of this project – which in its entirety he called 'Negative Platonism' – is a work published posthumously under the title *Study of Time I* (Patočka 2002a).

This text of about 40 pages seeks to outline in general terms the manner in which philosophical issues connected with time appear from the perspective of the 'negative idea'. As with his completed pilot study, *Negative Platonism* (Patočka 1996: 303–336), Patočka never published this text: indeed, he soon abandoned the entire project. That he should do so cannot be altogether ignored; I believe,

Translated from Czech by Marina Barabas.

P. Kouba (✉)
Department of Philosophy, Faculty of Arts, Charles University, Prague, Czech Republic
e-mail: koubap@cts.cuni.cz

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however, that these writings offer an important route not only to Patočka's own thought but also to modern philosophy of time.

It was arguably because of the general ontological agenda of 'negative Platonism' that *Study of Time I* sets itself a goal that is quite unusual given Patočka's phenomenological approach to philosophy. For rather than confining himself to the analysis of the 'internal experience' of time, Patočka here raises the question, 'what is time at the various levels of reality?': that is, he seeks to make sense of time not only for the human way of being, but also for living beings and for inanimate nature (Patočka 2002a: 612).

Patočka realises, and at the beginning of his discussion also notes, that time and space, as basic forms of our experience, are necessarily *connected*; connected, indeed, so fundamentally that "no substantive alteration is possible in one without the other being also affected" (Patočka 2002a: 613). Yet he adduces only physical relativity in proof of this unity, whereas in his *philosophical* reflection, he concentrates entirely on the difference between time and space, and puts altogether aside the question of their connection. This is, in a way, natural, since most traits of temporal and spatial ordering (e.g. direction, irreversibility, phase of actuality for time; absence of direction, reversibility for space) can only be delineated clearly when the two forms are examined separately. It is nevertheless their interconnection which characterises the reality of anything that exists.

Leaving his teachers, Husserl and Heidegger, in the background, Patočka draws upon his deliberations on a wide range of thinkers of very different orientations (W. James, J. McTaggart, F. Brentano, H. Bergson, C.D. Broad, A.N. Whitehead, H. Conrad-Martius, G. Jacoby), though he confines himself to modern authors. Of the many aspects of temporality considered in this broadly ranging discussion, Patočka concentrates largely on two: the relation of continuity and discontinuity, and the problem of the reality of different time dimensions.

The key question – that of the successiveness of time – is explored precisely against the background of the discussion about time's continuity and discontinuity. Patočka is convinced that neither the conception of time as a continuum – a gradual merging of time zones – nor the atomism of discontinuous temporal moments, is coherently tenable, since a comprehensive account of time requires both perspectives. Unlike most modern philosophers and psychologists who tend to ground the experience of time on the continuity of *duration,* Patočka places a much greater emphasis on discontinuity, which, as he sees it, constitutes the basic presupposition of temporal succession and irreversibility. Against the concept of continual duration (as developed primarily by Bergson), Patočka argues that continuity by itself does not allow us to think real succession, and that a strong concept of duration is not compatible with the idea of freedom and the emergence of something new. The importance of the discontinuity of time for Patočka is, however, best seen in his treatment of the three time dimensions.

The reality of time dimensions can be understood in four basic ways, briefly summarised by Patočka:

1. none of the dimensions is real (the skeptical argument known since ancient times);
2. only the present is real;
3. the present and the past are real, while the future is not;
4. all the dimensions are real in a four-dimensional variety, the difference between past and future appearing only due to the limited perspective of the subject.

Patočka himself adopts the third option – the reality of the present and the past, and the non-reality of the future. He does so, however, only under the condition that we draw a further distinction, namely that between reality and actuality. The past is real because it has already happened and cannot be changed: it is independent of the subjective stance (causality cannot be reversed). By contrast, the present is real in the sense of being *actual*, that is to say, it is the locus from which one can intervene into reality, can change it. (Although Patočka mentions the important point that it is precisely the *past* that is being changed since it is acquiring new meanings in the present, he brushes this aside as another question.)

That which is essential for time is, according to Patočka, largely independent of which metaphysical option regarding the temporal character of the universe we choose. "It is well possible," he says, "that we will not find time 'in things in themselves' – that we will be asking them in vain 'What is time?'. Even though time is not a fact of the absolute universe, yet it is an *absolute fact*, one which cannot be disputed away and removed from the world" (Patočka 2002a: 627).

The true root of time, that 'absolute fact', is the *creative character* of reality: time is a creation through which "there emerges in the universe something new, something till then not contained in it, and it is thus also a manifestation of freedom, indeed freedom itself" (Patočka 2002a: 627). Even though Patočka places here the connective 'thus' between the 'creation of something new' and 'freedom', he is well aware that these are two fundamentally different possible ways to understand the world and its temporal character.

He specifies both these possibilities more closely: either time is really an enrichment of the world through 'new layers', a creation of the world's content that occurs at all levels (in which case human being would be a special yet an integral part of the universe); or time (i.e. freedom) applies not to the universe but to humans, not to the 'content' of the world but to its 'form', i.e. to the manner in which the world is experienced. It is this second possibility which Patočka takes here as his starting point.

The novelty that comes into being with time does not therefore consist in the enrichment of reality as such, but is rather grounded 'negatively': it is freedom that is not possible in the "objective world without succession", but which enters the world with humans (Patočka 2002a: 628). The drama of free existence lies in the unique position of a being that, while embedded in the world, is also radically set apart from it.

When Patočka attempts a more accurate characterisation of our position between the real, 'concluded' past and the essentially non-real future, there emerges in his account a strange duplication of the concept of the present. The present is, on the

one hand, a passing away that is continuous with the past, is already real, and from which it is possible to separate oneself. On the other hand, however, the present is an actuality, which here means the potentiality to change reality in the light of that which as yet is not. In this second sense, the present touches the future: it is the act of separation itself. Patočka does not bring these two meanings of the present into an explicit relation, though he needs, and indeed uses, them both: the present of passing and preservation 'falling' on the side of the existing past; as well as the present as the edge at which there opens the non-being of something "altogether other" (Patočka 2002a: 630).

This detachment from the present is understood by Patočka as a *transcensus* – a going beyond the very sphere of *beings* (des Seienden). In the light of expecting the 'altogether other', in the light of the non-being future (which is for him simultaneously a relation to the non-being idea), we detach ourselves from all that is, from beings both past and present.

The relation to the radical otherness is thus the *origin* of time, which in the present offers two fundamentally different possibilities: either "surrendering to the universe" (to that which is), or "readiness for the radical leap", for something fundamentally different (Patočka 2002a: 630). In other words, time is a conflict in which we either extend the rule of the past and continuity with it, or it is that which enables us – thanks to the discontinuity of freedom – to assume a distance in the light of which the past becomes truly past and done with.

Against the philosophies of time built on the continuity of duration and the preservation of the past, Patočka argues that time dimensionality, as such, lies at a wholly different level. Temporality is a *task* posed by our position at the frontier between two sides (two 'eternities'): one of them is the finished (past) reality, which absorbs all that already happened; the other is *τὸ ἕτερον*, the altogether other – the eternal challenge.

Patočka considers Heidegger to be the one thinker who, in contrast to the others, understands past and future not as segments of time 'behind' and 'before' us, but as overall views of the world. And for Patočka this means precisely the possibility of viewing the world either under the aegis of the past or under the sign of the emerging, genuine future – that non-being which pulls us away from the "fascination with the present" (Patočka 2002a: 632).[1]

Because the present can thus be either tied to the past or open to the future, the "true dimensionality of time", as Patočka calls it, has an essentially dichotomic nature (Patočka 2002a: 630). It is this dichotomic temporality which Patočka uses to differentiate the various 'degrees' or layers of reality; in other words to differentiate the spheres of inanimate nature, of life, and of the human Being. These spheres differ precisely in that each of them has its own specific relation to time.

[1] At more or less the same time, Patočka develops along these lines also the contrast between myth and faith. See 'Time, Myth and Faith', published in 1953 in *Křesťanská revue* (*Christian Review*), reprinted in (Patočka 1996: 131–136). See also the text published posthumously under the title 'Study about Time II', in (Patočka 2002b).

As regards inorganic nature, however, this is not literally true; for inanimate nature has, in Patočka's view, (and not only in this text) no internal relation to time at all. In this sphere, where being is limited to pure actuality, the past and the present simply *exclude* each other: an individual entity is tied solely to the momentary causal constellation which determines its state. Inorganic processes are a series of changes which do not depend on whether something similar already was or eventually will be here – these processes are wholly indifferent to any succession. Time in relation to these processes is only the objectifying schema provided by us, so that in the end it cannot be decided whether in the inorganic world there really is any succession, or whether that world exists all at once.

This limitation to sheer actuality no longer applies once we turn to organic nature. A living being has an internal relation to time: it encompasses its past and in its being it passes through a sequence of stages whereby it completes a certain life form. These life-stages are, however, only a repetition of that which had already been: the future of a living being is determined by instinct as a complete form, and its time is only a passage from potentiality to act. Time is thus internalised but remains a mere accretion, dominated by the past.

Somewhat surprisingly, Patočka contends that it is the accounts of James and Bergson (and in the end also of Husserl) which offer an adequate conception of biological time. This is because for them the essential feature of time is precisely the continuous preservation of the past; which, while undergoing modification, still remains part of the present. Biological life is thus an extended actuality 'overshadowed' by the past; it is life which, though it relates to its temporal proceeding, does so only to repeat it, and is averted, turned away, from the future which breaks the present open.

Only a being capable of relating to the non-real (the idea) can detach itself from the present and assume a distance from reality as a whole. This distance thus comprises also the ability to relate freely to the past, to the entirety of space, to universality; that is, in the words of Patočka, to the whole "ideal substructure of being" (Patočka 2002a: 639). One of the constitutive forms of ideality is precisely the relation to the pure non-reality of the future.

Thanks to this relation, the human being can also relate altogether differently to his past than do other living beings: he has not only a cumulatively growing past that is also somehow present, but has also a *pure* past, a past that is complete and 'dead'. As a being that has to create the future, he needs just such a past. The specifically human need is thus not to be continuously 'reviving' the past, but to render it dead: the past should *not-be*; in other words it should be overcome, altered. The closed past which, completed, is there for us to return to, is the presupposition of the future which can be "gained only by *fighting* against this past" (Patočka 2002a: 641).

Although Patočka admits that the new always has its roots in our concrete needs and purposes, which arise out of our past, he still wants to emphasise that this newness, as such, cannot be explained as a mere recombination of that which already exists; that the new cannot be *concluded from* the past. This important insight is, however, developed by Patočka as the exclusive ability possessed by

humans to enter into relation with the 'wholly other', which is the original source of newness and which strips "all the given" of its validity (Patočka 2002a: 642). This establishes the fundamental dilemma between the 'wholly other' of the future, and the mere (passive) continuation of the past.

The dilemma so posed generates a major shift: a tacit but far-reaching identification of 'the genuine' with 'the new'. The openness of human time, conceived by Patočka as the ability to lift oneself "from the merely given to the genuine", whose sense should be the "renewal of life" (Patočka 2002a: 641), now becomes the breaching of the present by the newness of the purely non-present. This sheer newness, which Patočka distinguishes from the flighty pursuit of novelties, is identified with ideality itself, revealingly characterised as the sense "for that which is truly new, because it is fundamental" (Patočka 2002a: 642).

§2

As the *Study* proceeds, we see two connected decisions being made. The first, implicit rather than justified, is founded in the fact that Patočka, despite noting that there is no temporal content without connection with space, confines his discussion to their difference, and treats time entirely by itself. The second decision is explicit and provides the key to Patočka's understanding of time during this period: it concerns the very conflict between the future and the past. Human being, thanks to its relation to the non real future *qua* 'wholly other' – i.e. in consequence of the ontological 'rupture' – comes to be *severed* from all other reality. Creativity or the birth of the new has thus its own pure origin; it is, as Patočka puts it figuratively, the "arrival from above" (Patočka 2002a: 641).

But is the emergence of the new not, rather, the achievement of a being that confronts its own past in the world with that which comes to it from the world as the future? Do they not, rather, create something *together* that cannot be reduced to the past of either of them? Such a task might not meet with success; but when it does, then it really will have the character of an 'arrival from above'. For in such a case something truly new does come into being. But what thus emerges does not do so 'out of the newness', nor as merely something 'new': to the extent to which such successful encounter changes the situation and endows it with another meaning, something *fundamental* occurs here. And, being fundamental, it *cannot be separated* from the past and from that which already 'is here'. It could be argued that the need to secure an independent source for the 'new' in non-objectiveness or 'futurity' prevents us from, rather than helps us to, understand wherein consists the achievement of those who participate in temporal unfolding and its unsecured renewal.

The fundamental ontological role assigned to the different, non-being future is not, however, the result of Patočka's phenomenological orientation. Though Patočka appeals to Heidegger, his own conception of the present as a conflict between past and future is markedly different. For what Heidegger emphasises is

not the simple *rupture* between the completed past and the wholly other future: on the contrary, what prevails in authentic temporality and is designated by the concept of 'resoluteness' is a specific form of their *togetherness*.

Although, for Heidegger, the future plays a prominent role in the so-called 'temporalisation of *Da-sein*', and though the authentic unfolding of existence temporalises out of the future, it is not the 'sheerness' or 'radical newness' of this future which is at stake here. What the authentic existence proves by its relation to the future is the ability to take over one's past and *renew* it. The point of the resolute relation to the future is that it be a *response* to the possibilities of previous existence and their re-newing repetition (*Wieder-holung*) (Heidegger 1962: §62).

This is best seen precisely in Heidegger's explication of *historicity*. With respect to our relation to the past, he argues that authentic understanding does not *disengage* itself from the established interpretation, but rather "it is in terms of this interpretation, against it, and yet again for it, that any possibility one has chosen is seized upon in one's resolution. The resoluteness in which Dasein comes back to itself, discloses current factical possibilities of authentic existing, and discloses them *in terms of the heritage* which that resoluteness, as thrown, *takes over*" (Heidegger 1962: 435 [383]). For the factually disclosed possibilities of existence – says Heidegger – "are not to be gathered from death" (however much his account of *Angst* suggests it) (Heidegger 1962: 433).

Despite this important difference, Patočka does share with Heidegger the basic conviction that Being in time belongs exclusively to *human* being, and that when it comes to other beings we can talk of time only in a derivative or rather metaphorical sense. In this respect, there is a clear parallel between Patočka's treatment of the temporality of the various 'levels of beings' and the inquiry into different ways of being that Heidegger developed – in the context of his work, also atypically – in his course of lectures *Fundamental Concepts of Metaphysics* (*Grundbegriffe der Metaphysik*), delivered in the winter semester of 1929–30 (Heidegger 1995).

The second part of this course deals with the question, 'What is World?'.[2] The exploration is guided by a triple thesis: "the stone is world-less, the animal is world-poor, man is world-constituting" (*der Stein ist weltlos, das Tier ist weltarm, der Mensch ist weltbildend*) (Heidegger 1995: §42, 261 [176]). We saw above that, like Heidegger, Patočka views the non-human spheres 'privatively': inanimate reality, we could say, is time-less (*zeit-los*), living beings are time-poor (*zeit-arm*); only the human being is, thanks to his relation to the non-real, time-constituting (*zeit-bildend*).

In a similar way, Patočka's 'dimensionality' of time, made possible in humans by the intervention of 'sheer future' and by the difference between the (dead) past and the (non-objective) future, fades within the organic into mere preservation of the past, and disappears altogether in the utter indifference of the inorganic. But if Being in time, strictly speaking, is tied to the relation to the non-real future, then all

[2] Perhaps not surprisingly, Heidegger dedicated these lectures to the memory of Eugen Fink, who died in 1975 while Heidegger was preparing them for publication.

Being is in time (in the world) only thanks to this relation that human being has to transcendence.

The human relation to time – i.e. the explicit relation to the past and to the future, which can surely be conceived as a manner (admittedly, an entirely specific manner) in which we *belong* to the world – is in both thinkers eventually grounded in the relation to the 'entirely other', thanks to which we do *not belong* to the world. We are the receivers and the bearers of the breach of otherness (Being, *Da-sein*, world). As Heidegger says: it is not man who establishes the world, but the *Da-sein* in man.

Both attempts to understand non-human beings, also, as a certain form of Being in time remain, therefore, rudimentary. For what is decisive for both authors is that the human, held in the ecstatic temporality, offers to beings a possibility to manifest themselves in the world of understanding. And what we get as a side-effect of this is the (third) decision regarding the nature of time: the degradation of the reality of things to mere non-temporal 'objectivity'. This reality lacks any relation of its own to the Being, and ends up being levelled down to purely external causal relations (as we saw in Patočka's telling characterisation of the inorganic). The manifestness into which these beings enter has thus nothing in common with them: it is 'wholly other'.

The critical moment in this third 'decision' is the gap between the temporality of the manifestness (of the world) and the manifest beings, rather than the extent to which space is (or is not) taken into consideration. Certainly, the separate examination of temporality itself which, as we noted also in Patočka's case, tends often to be the unquestioned starting point rather than a deliberate decision, greatly encourages the widening of this gap. But even where the one-sided concentration on temporality is abandoned and where inquiry into the holistic character of the world focuses on spatiality – indeed even where the world comes to be considered as the always jointly open space-time – the breach between the world and the thing does not lessen. Not even Eugen Fink's remarkable attempt to think time and space as dimensions of the world from which things emerge and into which they sink, as dimensions *independent* of mediation by the historical *Da-sein*, can in the end enable us to conceive the thing as that which is present in the world so as to participate in its own way in the history of this world.

Only where space and time are considered as no longer in abstract separation but as conjoined in the being of things, can the difference between manifestness itself and the manifest beings cease to be the determining perspective of our thinking. We find some indications in this direction in Patočka's later *Remarks on Space* (Patočka 2003) – notes that he put together over a period of time – as well as in his study, *Space and its Problems*, which he wrote around 1960 (but which remained unpublished during his life) (Patočka 1991). In both texts Patočka is interested in the manner in which space is being constituted and as such inseparably tied to movement – and therewith also to time. Here the basic act of individuation is the stepping of the outside inwards and of the inside outwards. The individual being "can only exist by the movement of separation, which belongs to the universe as part of its internal determination" (Patočka 2003: 3).

Though these remarks are concerned mainly with the spatial articulation of the 'natural world', that is, with the world of human Being, Patočka extends his reflections here to the more general features of the being of things in the world, as intimated by our own being in space: space is "the being of things outside of themselves as part of the being of things in themselves. Things can be in themselves only thanks to being outside of themselves" (Patočka 2003: 10).

In *Space and its Problems,* he says in this connection: "[E]very attempt to render space independently of its content has led to its complete dissolution: it becomes mere empty contentless nothing" (Patočka 1991: 8). "[F]or it is the relations which connect realities, and they could not do so were they something suspended above the connected parties, indifferent to and independent of them" (Patočka 1991: 15). Hence, "space is not only an ontological framework for encountering present being, but is simultaneously a substantive foundation of this individual being itself" (Patočka 2003: 16).

These remarks about the spatiality of things in their mutual relations are not, however, developed in greater detail, and remain at the periphery of Patočka's account of space. But the question regarding the connection between the temporal character of our experience of the world and the character of things which we encounter in the world is to be found throughout Patočka's work as a certain 'temptation': a recurring need to step beyond the philosophy of transcendental subjectivity towards a 'phenomenological philosophy' that would return with new equipment to central metaphysical questions. This is shown in his relatively early reflections about 'non-objective interiority' and its relation to other interiorities, as well as (though in a very different sense) in his later attempts to formulate a program of an 'a-subjective phenomenology' (e.g. Patočka 1970). In the philosophy of 'negative Platonism' Jan Patočka does not yield to this temptation. Here, on the contrary, we can see that the understanding of the relation of the thing and the world as an ontic–ontological difference can remain an intraversible limit also for reflections of significantly different character. It is as if Patočka's fascination with the fact that things manifest themselves thanks to the understanding nature of our being did not permit him to focus philosophically on the nature of the being of that *which* manifests itself in our understanding.

If we turn to the way of being of things, we come to see that a thing cannot be '*zeitlos*' (time-less) or '*weltlos*' (world-less) because its own meaning and specific reality are formed by the manner in which it takes part *in the world*, that is, *inter alia*; precisely by the manner in which it interlaces within itself the time and space of others.

Heidegger was worried that man understands himself too much in terms of things, and that he thereby objectifies the ecstatic being of his existence. This perspective may be justified, but it should also be reversed: for human being has at least as strong an inclination to understand things merely from within the schematic representations of his own understanding, into which things are *qua* manifest, necessarily woven. Then, it may seem that we grasp the being of things only where we find an antecedent and necessary structure of thinking; or where the sciences discover generally valid causal connections in the individualised reality of things.

What lies outside the scope of both the exact sciences and philosophical reflection about the transcendental–ontological presuppositions of knowledge as such, is the being of the world in things. For the encounter with a real individual thing is always also an encounter with a certain manner of interlacement of the world. It is well possible that if we turned our attention from understanding itself to the things that manifest themselves in that understanding, light might be cast back on the manner in which our understanding exists in *their* world.

However, if we are to think being as 'the presence of things in the world', we need first to recognise the missing of the mark apparent in the three breaches sketched above, in whose trajectories philosophical thinking has moved for so long and so unhesitatingly: the separation of the future from the past; the separation of time from space; and, most of all, the separation of things from the world.

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'*Quicquid Cogitat*': On the Uses and Disadvantages of Subjectivity

Ludger Hagedorn

Abstract 'Life' is the magic word for decisive currents of modern philosophy. Much of the tone for this debate over the last one and a half centuries has been set by Nietzsche. His early meditation on the 'Uses and Disadvantages of History for Life' might be seen as one of its rhetorical starting points. From the very onset until its most recent developments, the reference to the lived experience was also a core issue and main concern of phenomenology. Husserl's notion of the 'life-world' (or the *Natural World* in Patočka's words) bears witness to this basic inspiration of phenomenology. The interpretation of the life-world, however, did find its primary setting within the confines of subjectivity. Despite being confident of its validity, Patočka's *Natural World* turns into a document for the dissolution of this subjectivist approach. Subjectivity itself becomes the ultimate *explicandum*.

Keywords Subjectivity • Life-world • Natural world • Phenomenology • Patočka • Nietzsche • Descartes

The title of this essay is a folly. It is all too presumptuous in its playful composition of philosophical fragments and all too playful in dealing with the expectations entailed in the presumptuous wording. The essay's crucial question is indeed that of subjectivity or, if taken more as a philosophical tenet, of subjectivism. It will be tackled eminently in reference to Jan Patočka and his reflections on the problem of the 'Natural World'. Nevertheless, it is in Patočka himself where the whole philosophical tradition of subjectivism, from Descartes to German Idealism to twentieth-century phenomenology, is reworked and reconsidered in its meaning for the question of *who* or *what* it is that is the thinking entity and as such the starting point for all philosophical reflections on 'subjectivity'. The Cartesian differentiation between *cogito* ('I who think') and *quicquid cogitat* ('anything that thinks' or 'whatsoever thinks') will obtain a somewhat altered significance within this quest for the ground of 'subjectivity'.

L. Hagedorn (✉)
Institute for Human Sciences, Vienna, Austria
e-mail: hagedorn@iwm.at

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On Uses and Disadvantages

'On the Uses and Disadvantages of History'[1] is the famous title of Nietzsche's second *Untimely Meditation*. Its rhetorical impact lies very much on the side of the 'Disadvantages', as if saying: 'We would be much happier, were we able to live without history, unhistorically.' The cow, prominently referred to in the very beginning of this writing, is equipped with the enviable ability of immediately forgetting everything so that it has no awareness of history. We humans might want to ask, 'Hey, how come you are so happy?'; and the happy cow is about to answer, 'Simply because I always forget' – but then it forgets this answer as well, and we are still left wondering.

Nonetheless, since humans are not animals, we simply can't forget, but we can – as Nietzsche holds – maybe *learn* how to forget, or better: how to remember the invigorating and useful aspects of history and how to forget its nasty and painful leftovers (Nietzsche speaks of "fractions", which is a telling metaphor).[2] So while rhetorically emphasising the 'disadvantages' of history,[3] Nietzsche's overall message is more differentiated: his writing is about the *right amount* of history, asking how much of history and memory we really need. The eloquent and powerful plea for the *liberation from history* is, on a more sober level of reflection, mitigated by the balanced and unagitated conclusion that "the unhistorical and the historical are necessary in equal measure for the health of an individual, of a people and of a culture" (Nietzsche 1997b: 63).

Subjectivity and Method

A similar ambiguity is characteristic for how big strands of twentieth-century philosophy have approached the question of subjectivity. While on the one hand the concept of transcendental subjectivity is often criticised as inadequate, on the other hand it remains the central axis for most of modern thought that does not want to 'fall back behind Kant'. Jan Patočka's *The Natural World as a Philosophical Problem* (1936) is almost paradigmatic for this (Patočka unpublished). But before

[1] Friedrich Nietzsche, *Vom Nutzen und Nachtheil der Historie für das Leben*, first published in 1874. There is a variety of English translations and, accordingly, of titles for this early work by Nietzsche. Some of them also try to emulate the alliteration of the original title, which is the resonant factor in German, with the help of rhyming, e.g. 'On the Use and Abuse [or: Uses and Abuses] of History for Life'. See Nietzsche 1997a.

[2] Cf. "Thus the animal lives *unhistorically*: for it is contained in the present, like a number without any awkward fraction left over" (Nietzsche 1997b: 61). NB in quotations throughout, emphasis is in original, unless otherwise stated.

[3] One is inclined to ask: what else, in a late 19th-century environment of historicism, when confronted with an 'overkill of history', and when, as a classical philologist, forced to deal with the seemingly irrelevant minutiae of one's profession?

speaking about his view on the uses and disadvantages of subjectivity, one should maybe ask whether our comparison of subjectivity to history is in itself a useful approach: if Nietzsche's reflection is concerned with the *right amount* of awareness for history, what then would the transference to subjectivity mean? There probably can't be too much or too little subjectivity as a philosophical stance. Subjectivity is a methodological approach rather than a stimulant; it is about right or wrong instead of finding the appropriate amount and the good measure. Leaning on the Greek word *méthodos* and its reference to 'way' or 'path', it seems adequate to hold that one's reflection is *either* on the right way, the right path, of examination, or not.

However, stating this in the environment of phenomenological philosophy entails certain difficulties: is there a method or methodology of phenomenology? Heidegger, at least, who was of no small influence to Patočka, would consider 'method' as something related to metaphysics and science. Obviously Descartes has a method, famously already in the title of his *Discours de la méthode*[4]; how to rightly conduct one's reason and how to rightly seek truth in science – those are his questions, truly methodological questions, leading to his hyperbolic or methodic doubt (also known as Cartesian doubt) and his efforts to establish new foundations for the house of science and philosophy instead of accepting the shaky old premises.[5] Certainly, to mention but one more example from modern philosophy, the speculative dialectics of Hegel shows a methodology; namely even more than a procedure or a technique, but a self-refection of philosophy, guaranteeing its own functioning and usefulness.

Heidegger's attempt to overcome what he calls 'metaphysics' might therefore stand as an example of the effort to leave behind such reflections about the first, pure and unobstructed ground for the new building. But what does this entail for the problem of method and methodology? In an oft-quoted passage from *Grundprobleme der Phänomenologie* (1927) Heidegger famously states: "Phenomenology is the name for the method of ontology, that is, of scientific philosophy. Rightly conceived, phenomenology is the concept of a method" (Heidegger 1988: 20). In this sense, phenomenology itself is a method, and certainly Heidegger also has his own method in bringing philosophy forward to Being itself; that is, bringing Being to view in a free projection. It is a method that he calls "phenomenological construction". But since there is always already a philosophical tradition, a tradition that pervades into even the most radical attempts to begin all over again, "there necessarily belongs to the conceptual interpretation of being and its structures [. . .] a *destruction* – a critical process in which the traditional concepts, which at first must necessarily be employed, are de-constructed down to the sources from which they were drawn" (Heidegger 1988: 20 f). This method of construction and

[4] René Descartes, *Discours de la methode* (1637); see Descartes 1960.

[5] In the very beginning of Part II of his *Discours*, Descartes states: "Thus it is observable that the buildings which a single architect has planned and executed, are generally more elegant and commodious than those which several have attempted to improve, by making old walls serve for purposes for which they were not originally built" (Descartes 2008 [1637]: Part II).

destruction (which became so famous with the postmodern fashion of deconstruction) has a remarkable side effect: it inevitably brings back the question of history. Method is by no means free of history, and history comes back methodologically, namely as deconstruction. Therefore, the reflection on subjectivity as a method is drawn back into the question of history as a tradition that in some way or other (methodologically) influences or contaminates all pure and new beginnings. The question of a right or wrong (in method) is inseparable from that of a higher or smaller dose of tradition and its effects as stimulus or sedative. But this is only one of the difficulties entailed in the comparison.

Uses and Disadvantages for Life

A second difficulty in speaking about the uses and disadvantages of subjectivity has to do with the reflection on what to measure against. So far, this aspect has been carefully evaded, but, as is well known, the full title of Nietzsche's pamphlet is 'On the Uses and Disadvantages of History for *Life*' (emphasis added). Life is the criterion used to decide what is 'useful' and what is 'disadvantageous'; life is the somewhat magic notion that serves as the ultimate purpose, a notion as shimmering and powerful as it might be undefined and nebulous. Other words and concepts that Nietzsche uses almost synonymously are 'health', certainly, but also rarer references such as "cheerfulness, the good conscience, the joyful deed, confidence in the future", and so on,[6] not all of them necessarily and strictly identical but somewhat setting a line of separation: when is it demanded to feel historically and when unhistorically; how to differentiate between what is useful and what is disadvantageous? The criterion, then, is always dependent on judging how far something serves as a means for the powerful instinct of life or for an intensification of life. The 'sound', the 'healthy' and the 'great' are supposed to grow only on a certain foundation of vitality, a certain being in favour of life, cheerfulness, health, and so on. The prospect at the very end of Nietzsche's article is the claim for a "more robust health and in general for a more natural nature than its predecessors" (Nietzsche 1997a: 121). Certainly, Nietzsche shouldn't be taken too literally here: the "more natural nature", a *contradictio in adiecto*, is at the same time, and by purpose so, as natural as it is unnatural – put differently and relating this idea back to the beginning, human beings do not simply forget: they have to learn how to forget and what to forget. Nietzsche also uses the concept of a 'second nature', which is very much the same intricate idea of a more natural nature. 'Life' and 'nature' should therefore not be taken as essentialist biological concepts, but as dynamic and open for further development.

If, in Nietzsche, 'life' is the benchmark for the right and prosperous amount of history, what could then be the right scale for subjectivism? The title of this paper

[6] To mention just a few that Nietzsche gives in one single sentence (Nietzsche 1997a: 63).

leaves it open, by purpose so and as simple expression of a certain embarrassment: 'On the Uses and Disadvantages of Subjectivism for…' what? - philosophy?, truth?, science? The more one takes subjectivism as a methodology, the more urgent becomes the question of what it provides us with. Is it the firm and stable ground of all knowledge? This would very much still be the Cartesian dream of setting the foundation stones that all future progress in the sciences can rest on. Descartes very much sees it as a struggle against 'confused ideas', so that the task of philosophy is to create order. What was called reality is real no longer; reality has to obey mathematical laws, it has to be understood *sub specie* of the formal mathematical model. Philosophy is here like the pathfinder for the one and only method of true knowledge.

As is known, the philosophical task for Edmund Husserl in *The Crisis of European Sciences and Transcendental Phenomenology*, and similarly for Patočka in his *Natural World*, is a different one: namely, to reconcile the two opposing world views of science and the naive, natural attitude. Philosophy does not any longer try to set science on the right track, but tries to find a way to reintegrate the devaluated natural attitude; that is, the prescientific understanding of the world. Both Husserl and Patočka try to achieve the reconciliation of these opposing views by relating them back to the same and common source: namely, their constitutive generation by transcendental subjectivity. This striving for unity is not only a theoretical question – not for Husserl and, even more so and explicitly so, not for Patočka. The quest for a reintegration of the opposing world views is an *existential* question, and he leaves no doubt about this when stating that "the scientific view can induce a profound change in the very foundations of the life-feeling; man lives in the fundamental apperception of his unfreedom, he feels himself the agent of objective forces, perceives himself not as a person but rather as a thing". With the help of another famous philosophical concept, this reification is then called "self-alienation", finally with an even greater pathetic undertone also "self-abdication". As for the reasons and sources of this self-alienation and self-abdication, Patočka leaves little doubt when saying that it arises "where man directs neither himself nor others from a *personal* standpoint but rather gives himself up to the impulses that carry him" (Patočka unpublished: Ch. I, §2).[7] The existential inspiration and the reference to the Heideggerian concepts of authenticity and resoluteness seem to be obvious. However, there is also another analogy that might not be so instantly obvious but, once detected, becomes quite conspicuous: a search for unity that goes far beyond the unification of scientific and natural world – a quest for enhancement and invigoration that speaks clearly out of the quoted passage with its favouring of active mastering over passive submission. The overcoming of self-alienation and

[7] All references will be given as chapter (Ch.), section (§), because the manuscript is currently unpublished. The Czech original appeared in 1936. It was the first book worldwide that was dedicated to Husserl's topic of the life-world (*Lebenswelt*) or, in Patočka's words, the 'Natural World'. Patočka already had access to Husserl's *Crisis* manuscript, which came out in the same year, but incidentally only *after* Patočka had published his thesis. The *Natural World* was reprinted in 1970 and finally edited in Vol. 6 of Patočka's *Collected Works* (see Patočka 2008 [1936]).

self-abdication in Patočka's *Natural World* is not by chance reminiscent of Nietzsche's fight against the "awkward fractions" referred to at the very beginning of his untimely pamphlet.

The Natural World as a Philosophical Problem

The stereotypical understanding of Patočka's habilitation-thesis of 1936 is that it tries to somehow combine the late Husserl with a bit of Heidegger, in the end clearly opting for the more Husserlian solution of transcendental subjectivity.[8] This gives a picture that is not at all wrong, but that is perhaps valid only on a certain level; or to frame it in the language of ice figure skating, this is the compulsory part of Patočka's academic writing (and the fact that the book was meant to serve as thesis for his habilitation should be stressed). But next to the compulsory part, there is obviously a certain freestyle program as well. What does it consist in? First of all, there is Patočka's vigorous interest in the history of philosophy – something that will remain typical for all his writing: the aforementioned concept of construction/destruction clearly shines through his reading of Fichte, Schelling or Hegel.[9] Secondly, there is his persistent occupation with the concrete phenomenality of the world: spatiality, temporality, corporeality, affectivity. Already the combination and mixture of these concepts indicate the mutual supplement of Husserl's and Heidegger's approaches. But they also stand for a descriptive phenomenological method of its own (his 'Phenomenology of Perception', if one wants to make the comparison to Merleau-Ponty's major work). And again, this is something that will remain characteristic also for Patočka's later philosophy.[10] These two approaches – the descriptive–phenomenological one as well as the one related to history and the history of ideas – are significant components of his stand-alone philosophy.

Nevertheless, were one to determine the core issue, the leitmotiv of this freestyle program, it would probably have to be found yet somewhere else. At one point in his *Natural World*, Patočka makes the following remarkable statement (it brings the discussion back to the concepts of self-alienation and self-abdication):

[8] Ludwig Landgrebe's Introduction to the German translation of Patočka's book might serve as a good example of this (cf Landgrebe 1990). Landgrebe clearly points out these inspirations in Patočka's writing and also relates them back to the historical circumstances of that time (Husserl's visit to Prague, Landgrebe's life in exile, their common care for Husserl's *Nachlass*, etc.).

[9] These philosophers are Patočka's most important historical references in the *Natural World*, not Kant or Descartes as in Husserl's *Crisis*. Just this small observation already shows a remarkable difference between their approaches. Patočka's consideration of transcendental subjectivism starts with some of its most preeminent examples in the history of philosophy. The prefiguration of an all-encompassing subjectivity in German Idealism is reworked (de-constructed) with regards to Husserl's phenomenology.

[10] Out of many such phenomenological studies of his, one could mention the lecture series, 'Body, Community, Language, World', which also came out in English (Patočka 1998).

> The fact that even such consciousness of abdication leaves room for a stabbing anxiety [about the finitude of existence] is simply more evidence of the inner conflicts in which human self-alienation becomes entangled. Alienated man finds it difficult to enter into the spirit of his self-prescribed role, or rather, the role prescribed to him by the objectivist view of his essence; life within him flees this graveyard reconciliation, and as he is unable to free himself from his self-apperception, he endeavors at least to turn a blind eye and forget his situation in the thousand distractions so abundantly offered by modern life. (Patočka unpublished: Ch. I, §2)

Keeping in mind that the piece was written with an academic purpose by somebody in his late twenties, one will not be surprised by the compulsory and quite direct reference to Heidegger's analysis of anxiety and finitude. But there are also quite a lot of moments that make this passage 'Patočkian': not just the wording ("stabbing anxiety", "consciousness of abdication", "graveyard reconciliation" – Patočka is often quite unique in coining his own expressions and slight terminological variations); also the combination of philosophical ideas creates an image of its own. Most remarkable in the quoted passage is probably the formulation that "life within him flees" the role prescribed to the modern, self-alienated human being. The background of this description is still the discussion of modern objectivism generated by the scientific world view. "Life within" is said to flee that perspective, maybe in an 'inauthentic' way first, namely towards being distracted; but this first impulse is or should be then overcome by something else. What, then, is the 'authentic' or 'positive' outcome of "life's" striving to flee the "graveyard reconciliation"? His answer is surprising; or, in fact, surprising is the variance between two different reasons given to overcome alienation. The first is, as Patočka says, "the need for philosophy as a unity function for our splintered consciousness". The inspiration provided by Husserl's diagnosis in the *Crisis* and the proclaimed main line of his own writing in the *Natural World* is easy recognisable. Patočka also makes it explicit by adding that the splintered consciousness is "blundering from the naive to the scientific world and back, living out its unfortunate existence in between the two positions". But only in the sentence to follow does he then concede that this, his own description, is "far too tolerant of the grosser tendencies of human nature" because the unity function should be considered more in its "practical significance". Ultimately, placed at the end of the chapter, this second motive to overcome alienation is described in terms of the necessity to find a "suitable ground for the genesis and development of a strong self" (Patočka unpublished: Ch. I, §2). One could hardly imagine a more indicative passage for the leaving behind of the 'official' (compulsory, academic, etc.) approach and the favouring of the 'freestyle program'.

Indeed, the development of the "strong self" can be closely related to the philosophical striving for unity; it is the practical side of the unity function, the awareness that one has stepped over to a new, firm ground and that life is no longer "splintered". But taken in its full consequence, this shift also implies that theoretical life (*bios theoretikos*) becomes immersed in the much broader concept of self-integrity, inner strength or – to use the Nietzschean word – health. Reading Patočka's first book with that hypothesis in mind, it seems to be all-too-obvious:

the main concern of the *Natural World* is not the split between scientific world view and natural attitude (this split, the concern of Husserl's project in the *Crisis*, is only *one* of the manifestations within a much bigger and broader crisis); rather, it is about the implications that this crisis in general has for personal self-awareness and self-integrity.[11] One could describe a certain tendency in both authors with the help of the following pointed observation: whereas Husserl's *Crisis* is really concerned with the rehabilitation of the natural world (the '*Lebenswelt*' in his terminology), Patočka's undertaking in the *Natural World* is in fact all about the crisis of philosophy. Philosophy has lost its capacity to serve as a "unity function"; it is drawn into the existential quest and thereby returns to its beginnings in Socratic questioning.

Crisis and Nihilism

Philosophy is no longer the safeguard against the disparity of world views. For Patočka, philosophy itself is the problem, or philosophy itself poses the problem. The philosopher's transcendental subjectivity is not any longer the constitutive source of the world's unity, but the self in itself becomes a questionable unity. And as concerns the general background for the crisis of philosophy, it is all-too-obvious that it does not merely have to do with the rise of modern sciences. In his *Natural World*, Patočka does not once use the word 'nihilism'; neither does the name Nietzsche show up in the whole book.[12] But such direct references are hardly needed, because it is so obvious that the question being dealt with in the *Natural World* is *the* Nietzschean question: the onslaught of nihilism and the attempt to overcome it. That this is the case becomes clear when Patočka repeatedly refers to the task of creating a meaning or giving a meaning to life. In one passage he characterises his writing as the attempt to follow the "question of the *overall meaning* of life" (Patočka unpublished: Ch. I, §2, "overall meaning" italicised and highlighted by himself), and at another place, in explicit reference to Dostoyevsky,[13] he says that the breaking of the world's unity "threatens modern man in that which is most precious to him: his personality" (Patočka unpublished: Ch. I,

[11] It is not by coincidence that the Socratic motive of the *care for the soul* obtains such a crucial importance for Patočka's later philosophy. Care for the soul is like the practical or existential aspect of what 'philosophy as a unity function' means.

[12] This is quite remarkable, since in many of his articles published either before or after, Patočka indeed has manifold and intense references to Nietzsche, cf. e.g. 'Some Comments on the Mundane and Extra-Mundane Position of Philosophy' (1934) and 'Life in Balance, Life in Amplitude' (1939), both of them in English translation (Patočka 2007a, b, respectively).

[13] It is one of Patočka's main theses in his very last article, 'On Masaryk's Philosophy of Religion' (1977) that Dostoyevsky's literary work is an answer to Nietzsche's question of nihilism. This long article is planned to be published in English translation in *The New Yearbook for Phenomenology and Phenomenological Philosophy* in 2014. German translation: Patočka 2002.

§4). With such explanations it becomes clear that the 'Crisis of Modern Sciences' is not seen as the source and origin of a general crisis: on the contrary, the falling apart of the natural and the scientific world views is a mere indicator, the epi-phenomenon of a bigger crisis that is characterised by the general loss of meaning. The question of nihilism is naggingly present in Patočka's book but never is it fully and explicitly addressed.

The same holds for another Nietzschean concept which will now bring back the discussion to the main topic of subjectivity. The crisis of the scientific, objectifying world view is, for Patočka, at least in one aspect a very important indicator; namely in that its proclaimed failure proves the necessity to understand the world not as a dead object, but as something that has to be bestowed with meaning. The world is rather:

> a meaning created in an eternally flowing activity whose main modalities will be the theme of our analyses, feeling their way toward the center; thus we can no longer see being as a *fatum* but rather as a law drawn from our innermost core, as a creation which offers a certain space of freedom also to upsurges of new creativity. (Patočka unpublished: Ch. I, §4)

This talk of an "eternally flowing activity", the "innermost core" and "creativity" is quite indicative in itself. But all these concepts do only reveal their full impact, when now – finally – they are related to what can be called 'the magic word behind'. What is the core that they all refer to? Certainly, life! It is impossible to fully enumerate all of Patočka's references to "the uniqueness of life", life's activity, "natural life-feeling", the lived-experience and lived-experiencing (activate the activity), to embodied life, practical life, and so on. In fact, in his book of less than 200 pages there are not only dozens, but several hundreds of references to life.

The Magic Concept of 'Life'

Nietzsche's magic concept, 'life', therefore, finds its fullest acceptance and relevance in Patočka's *Natural World*. What is behind or beneath his reflection on subjectivity is a reflection on life. One can certainly hold that this is not so much of an astonishing result, since it is well known that one of the strongest inspirations for phenomenology in general was certainly the so-called 'philosophy of life' (*Lebensphilosophie*).[14] The immediate interconnection between 'life' and 'phenomenality' rests evidently in experience itself and the activity of experiencing – phenomenology is about the salvation, the preservation, the articulation of lived and lively experience. But even if it might not come as a big surprise to have this close interconnection to life and life's activity in a phenomenologically oriented writing, one can still hold that it rarely ever becomes so obvious, so omnipresent and also so self-explanatory as in the case of Patočka's *Natural World*. The book

[14] This label most often refers to philosophers such as Henri Bergson and Wilhelm Dilthey. Its most important forerunner and source of inspiration, nevertheless, is obviously Nietzsche.

was said to deal with the question of the 'Uses and Disadvantages of Subjectivity' – and the central notion of life will now help us to give the answer to both of these questions: Why is subjectivity useful? Why would it be useful to save the concept of subjectivity? Because subjectivity (transcendental subjectivity) is the safeguard for the 'sense-bestowing', the creative, active, fluent character of life's mental and practical activity. Why, on the other hand, is it necessary to criticise subjectivity? For the very same reason: there is a certain all-too-tight and all-too-technical understanding of subjectivity that might threaten to cut off the diversity and the over-abundance of the lived experience. Why hold fast to the concept of subjectivity, and why overcome, modify, enhance subjectivity? For the very same reason – for the sake of life!

'Life' was the crucial category for Nietzsche's critical assessment of history ('history for the sake of life'); 'life' in Patočka is the central benchmark for the uses and disadvantages of subjectivity ('subjectivity for the sake of life and lively experience').

The disadvantages, the critique of subjectivism, become evident in many instances of Patočka's writing, although this is – so to speak – not the official doctrine. They become evident by the overall argumentation leaning on Heidegger's 'Being-in-the-world': that is, his stressing of the pragmatic character of things encountered in the world (Heidegger's ready-to-hand in contrast to the present-at-hand); also the stressing of the passive, receptive side of experiencing the world, our everyday life and attitudes and activities; and thirdly also the attunement of life that is the 'mood-colouring' of all experiences.[15] But it is clear that Patočka, in many aspects, also wants to go beyond Heidegger. Corporeality or embodiment is probably the best example. Bodily existence, for Patočka, always has a double meaning: it is on the one hand the body that makes all activities of human life possible (body as experiencing instance); but there is also a dependency resulting from that, a dependency that predetermines which possibilities we are to choose (the body as 'thrownness', to use the Heideggerian word).[16] But regardless of how influential Husserl or Heidegger or anybody else was for the more detailed analyses of the *Natural World*, most remarkable is the overall inspiration that seems to be

[15] Cf. the following passage from the *Natural World*: "Moods and 'states' are dynamic: it is part of their essence to be from something and for something; every mood is a mood for a certain activity, be it idleness. The possibility of our activities lies in our moods and 'states' (in 'how we are', or 'how we are doing'). Each and every life is characterized by a scale of moods…" (Patočka unpublished: Ch. III, §1).

[16] In his 'Afterword' to the *Natural World*, written 40 years after the publication of the main text, Patočka refers to the problem of bodily existence like this: "The body and embodiment belong essentially […] to what is revealed, uncovered by the illuminated, disclosed being in its being-in-the-world. […]The body belongs not only to the problem of one's own spatiality but also to the sphere of one's own possibilities. The body is existentially the totality of possibilities that we do not choose but into which we are inserted, those for which we are not free, those *we have to be*." (Patočka unpublished: Afterword [1970], §II). The reformulation of 'thrownness' in terms of corporeality is indicative of his general attempt to take up philosophical impulses of Heidegger, but build them into a phenomenology of concrete phenomena.

behind his critique of subjectivity. The main line was already indicated. It is the endeavour to give life to the subject, and that means: no longer is the subject some abstract instance of perception and consciousness; rather it is supposed to become 'real' life, a being in the world and a concrete being situated in the world.[17] Replace subjectivity with 'the flow of life' or, at least, bring subjectivity back to the rich source of life – the general tendency of this undertaking seems to be clear. How to achieve it? Several aspects have already been mentioned; but what is the basis for it all, or, to use an earlier word, what is Patočka's overall methodological approach? Much of it obviously consists in what could be called a de-constructivist approach: that is, he carefully relates his argumentation to the philosophical tradition and (re-) integrates several elements into a theory of its own. But what does this mean to the concept of subjectivity as such? In short, one could say that the attempt to awaken the subject, to give real life to the subject, leads to a certain decomposition of the subject and its functioning as transcendental subjectivity. There are at least two tendencies in Patočka's early writing that indicate this decomposition of the subject, the change of its character.

Subjectivity, Person, Life

The first tendency is connected to the concept of 'person'. At one point of his *Natural World*, Patočka comes to a formulation that almost sounds like a definition of what 'person' means in his approach: "The pure I is not merely an identical pole; it is at the same time the substratum of our habitualities (convictions, attitudes, habits), and in this respect it can be determined as a *person*" (Patočka unpublished: Ch. II, §7). The reference to "convictions, attitudes, habits" – i.e. the inclusion of the whole cultural, ethical and practical background of human life – is the additional element in contrast to the mere subjectivist understanding. Convictions, attitudes and habits might have to do with values that give a meaning to human existence. Accordingly, some of the main strands of a high-up philosophical concept of the person ('personalism') share ideas with the Christian and/or

[17] Once again, Patočka's choice of words is revealing. Despite officially holding on to the transcendental subject, there is a whole set of concepts entering his discussion that speak a different language: "transcendental life" (appears several times, first appearance: Patočka unpublished: Ch. II, §5); "transcendental field" (appears several times, first appearance: Patočka unpublished: Ch. II, §5 – a prefiguration of the "phenomenal field" that he will speak of in the 1960s); "transcendental preexistence" (Patočka unpublished: Ch. II, §5); maybe the most telling one, also mentioned a few times, "flowing life" (first appearance: Patočka unpublished: Ch. II, §5); then finally a combination of these concepts in the definition "the transcendental field appears as flowing life, presenting itself with the character of apodicticity; its contents include all and every object of our lived-experiencing, all and every being, grasped, of course, as a phenomenon" (Patočka unpublished: Ch. II, §6). Certainly, very similar formulations can be found in Husserl as well. But what, for Husserl, is taking place within the field of transcendental constitution is, in Patočka, coming closer to existential questioning and Socratic care for the soul.

humanistic traditions. Patočka is sometimes not so far from these personalistic views. Nevertheless, his 'ethics' is not one that is strongly value-based, but shows a deeper interest in the very primordial happening of what makes an ethical life at all possible: the original conversion (he often uses the Greek word *metanoia*) to ethics; the 'call of conscience' (to use Heidegger's term) that is not an advice and does not demand a concrete action, but 'awakens' to morality in the sense of being a pre-moral origin of all moral action. However, what Patočka obviously shares with personalistic views is the accentuation of responsibility. Human life is not heteronomous – i.e. determined by nature or society. Being a person, in a certain sense, means to create oneself in and through practical action. The concept of 'person' therefore entails a dynamic structure, it is a dynamisation of the 'subject'. In this sense, a 'person' is *more* than a mere 'subject'. This is also true in relation to what is maybe the most outstanding feature of a personalistic view, namely social relationships. A person is a person only in relation to other people. The constitution and realisation of personhood takes place in community and through dialogue (this, once again, separates more person-related views from mere subjectivist ones). This interpersonal aspect is also strongly present in Patočka,[18] but is not brought to the foreground. More characteristic for him is the basal understanding of what 'person' means in relation to finiteness and corporeality, i.e. the exposure to the world, which nicely speaks out of the following quote: "The subject is always bound to a body, dependent on the givenness of realities outside it, and hence finite; it is a person" (Patočka unpublished: Ch. 2, §6).[19]

If the concept of 'person' in a certain sense is *more* than subjectivity, there is also the tendency of making it *less*. This second reworking of the idea of subjectivity is closely connected to the already mentioned notion of life. "Flowing life", "transcendental life", etc., are heavily brought into discussion as replacements and/or enhancements of subjectivity. 'Life' is less than subjectivity, because it relates to an anonymous, unnamable instance that is not individualised. If taken in an objectified sense, 'life' and 'person' are contrary, conflicting concepts. By definition, 'person' is set against or above 'life', above mere life; it is meant to be more than and different from, for example, animal life. But both concepts come together again, if taken in the subjective sense of an experiencing instance that perceives the world – and not only perceives the world, but *is* in-the-world, acts in the world, etc. What the philosopher Patočka wants to get hold of is the liveliness of experiencing. And how to get it? Precisely by relying on personal, authentic, lively experience. Nevertheless, there remains a certain tension between the almost-equivalent use

[18] In the *Natural World* this is especially formulated as a critique of both Husserl and Heidegger, who, according to Patočka, severely underrate social life.

[19] This quote shows that the characterisation of a 'more' and 'less' than subjectivity shouldn't be taken too literally. It is also not meant that both concepts would exclude one another. On the contrary, both indicate a certain reworking of the concept of subjectivity that might lead to a more refined, dynamised understanding. Patočka's theory of the "three movements of human existence" points into that direction: whereas the first movement is more passive and related to the past ("subjected to. . ."), the third one is active and future-oriented ("make oneself a subject of. . .").

of concepts such as 'person' and 'life'. Once again, language seems to reveal it: not accidentally does Patočka refer to this experiencing also by calling it "transcendental field" (Patočka unpublished: Ch. 2, §6), and not accidentally is this understanding of it clear of all subjective or personal ingredients.[20] If we are to make sense of this terrain or field, we can only think of it as an experiencing that is before or prior to a 'person' in the sense of a free and responsible being. The tension between these two concepts – or better to say between these two accents in the reformulation of subjectivity – is not really solved. But the tension in itself might be significant. It indicates the difficulties in overcoming or enhancing subjectivity and in awakening it to 'life'. The reflection on the uses and disadvantages of subjectivity leads to a certain decomposition or disintegration of the experiencing instance as such ('subjectivity', 'life', 'person' etc.). This decomposition also reverberates in Patočka's reference to the most classical formulation of subjectivism in Descartes. What is it that thinks?

Quicquid Cogitat

In his *Principia Philosophiae*, Descartes makes the following statement: "*Is qui cogitat, non potest non existere dum cogitat*" (Descartes 1644: Part I, §49); in translation, "he who thinks must exist while he thinks"[21]; or as it could also be translated, "it is impossible that he who thinks does not exist while thinking". Descartes calls this statement a *notio communis*, which is, in his own definition, "an eternal truth having its seat in our mind, [...] a common notion or axiom" (Descartes 1879: Part I, §49). The better known and shorter formulation of it is: "*quicquid cogitat, est*" – "whatever thinks, exists". The remarkable difference to the first formulation consists in the fact that Descartes, instead of the personal *is qui* ("he who"), uses the neuter: *quicquid* ("whatever", not "whoever"). This common notion or axiom is prior to the famous Cartesian *cogito, ergo sum*. Descartes says so explicitly in his conversation with Burman: "*Ante hac conclusionem: cogito, ergo sum, sciri potest illa major: quicquid cogitat, est...*" (Descartes 1903: 47) – "before the inference from 'am thinking' to 'I exist', the premise 'whatever thinks exists' can be known, because it is prior to the inference, which depends on it." And Descartes convincingly continues to explain this priority:

> [...] this premise comes first – because it is always implicitly there and taken for granted. But it doesn't follow that I am always expressly and explicitly aware of its coming first, or that I know it before conducting the inference. I'm attending only to what I experience within myself – e.g. that 'I am thinking, therefore I exist'. I don't pay the same attention to the general thought that 'Whatever thinks exists'.[22]

[20] This is already a prefiguration of his later "a-subjective" phenomenology and the notion of a "phenomenal field".

[21] Very similar formulation in (Descartes 1644: Part I, §10); the quoted English translation is (Descartes 1879).

[22] Quoted from the online translation edited by J. Bennett (Descartes 2010–2015: 1f).

One of the most famous sentences in the history of philosophy, explained by the author himself; but here attention should be paid to only one thing: namely, how Descartes explains on the one hand the priority of the general, impersonal statement and on the other the exact opposite – the necessary priority of the first person singular. *Quicquid cogitat* comes first in logical order; it is an eternal truth, a *notio communis*. The *Cogito*, on the other hand, is the one that comes first and has to come first in the order of experience.

In his *Natural World*, Patočka takes up exactly this differentiation of Descartes. Still in the initial chapters of his undertaking he says: "The *cogito* has an exceptional priority over all other ideas: it is the first idea, implying existence, so to say, a generator of certainty about what is. [. . .] The first *certainty* is not *quicquid cogitat, est* but rather *cogito, ergo sum*" (Patočka unpublished: Ch. 2, §1). This short summary of the above-outlined discussion in Descartes rightly indicates why the *cogito* is the starting point of Descartes's philosophy: because it is the generator of certainty! But it is very interesting to see how Patočka then goes on to further explain this idea:

> The *cogito* as an idea must be distinguished from the *cogito* as a **living** certainty. [. . .] Descartes himself distinguishes the *cogito cogitans*, *source* of all certainty, from the *cogito cogitatum*, which is an *objectified result* of the former. It is the *cogito cogitans* that contains the guarantee of its objects, so to say the source of **living water** from which they draw their **life**; and in the *cogito, ergo sum*, this **lifegiving** consists evidently in the identity of the *cogito cogitans* with the *cogito cogitatum*. (Patočka unpublished: Ch. 2, §1, italics in translation, my bolding)

The references to life, lifegiving, living water, have been highlighted here by purpose, since they indicate a remarkable change: whereas Descartes seeks for certainty, for a firm ground of his reflection, which he means to find in the *cogito* as the famous *fundamentum inconcussum* of his meditations, Patočka, also speaking about certainty first, qualified as "living certainty", then translates the *cogito cogitans* (the non-objectified side of the *cogito* and the one he refers to as a phenomenologist) into a 'lifegiving' instance and into the 'source of living water from which all objects draw their life'. The question of certainty is dissolved into the bigger and more important (at least bigger and more important to Patočka) question of assuring the liveliness of experience, the fullness of life and its transmission into philosophical reflection.

For Descartes, the certainty is guaranteed by the identity of the *cogito cogitans* and the *cogito cogitatum*. The *cogito cogitans* reflects on its own activity in the past and thereby assures indubitable knowledge. But, as Patočka asks, "what does the *cogito cogitans* mean in its unreflectedness? This question did not interest Descartes, it finds no answer in his work; in Descartes, the *cogito* remains unanalyzed" (Patočka unpublished: Ch. 2, §1). It is not all-too-daring to assume that his own philosophical intentions clearly speak out of this critique. Shouldn't the liveliness of experience be favoured over its proclaimed certainty?

Patočka does not explicitly relate this to the question of *who* or (better) *what* the 'subject' is. The outlined references to 'person' and 'life' indicate a certain direction of his approach. But in reference especially to his later a-subjective

phenomenology, it would be interesting to ask for the character of this experiencing instance as such. Descartes's formulation of a *quicquid cogitat* might serve as an indicator for this somewhat-altered concept of subjectivity. It was Nietzsche who greatly formulated an anti-Cartesian shift back from the 'Ego' to an 'It' or '*Quicquid*':

> I shall never tire of emphasizing a small terse fact [. . .] – namely, that a thought comes when 'it' wishes, and not when 'I' wish, so that it is a *falsification* of the facts of the case to say that the subject 'I' is the condition of the predicate 'think.' It thinks: but that this 'it' is precisely the famous old 'ego' is, to put it mildly, only a supposition, an assertion, and assuredly not an 'immediate certainty.' After all, one has even gone too far with this 'it thinks' – even the 'it' contains an *interpretation* of the process, and does not belong to the process itself. [. . .] perhaps some day we shall accustom ourselves [. . .] to get along without the little [it] (which is all that is left of the honest little old ego). (Nietzsche 1886: §17)

The explosive element entailed in this comment is a systematic undermining of the concept of the subject as such. It seems that exactly the will to be truthful to experience, the will to make experience 'lively', the will to awaken the subject to 'life', forces philosophy to rely more on the experience as such, on lived experience, without necessarily presupposing a clear-cut concept of the experiencer or the experiencing instance itself. Descartes's '*quicquid*' is a great expression for this in that it relates the experiencing to some 'it', some yet-undefined instance that is also crucial for Patočka's a-subjective phenomenology. For Nietzsche, it is a mere habit and convention of language that forces us to think of thinking as an activity to which a subject as a cause of that activity *must* be thought. The idea of a unified and with-itself-identical Ego collapses. For Patočka, the result of his writing on the *Natural World* is a similar one: his reflection on the uses and disadvantages of subjectivity releases an inner dynamic that finally tries to overcome the whole concept of subjectivity – and to give life to the subject.

Summary

'Life' is the magic word for decisive currents of modern philosophy. Much of the tone for this debate over the last one and a half centuries has been set by Nietzsche. His early meditation on the 'Uses and Disadvantages of History *for Life*' might be seen as one of its rhetorical starting points. From the very onset until its most recent developments, the reference to the lived experience was also a core issue and main concern of phenomenology. Husserl's notion of the 'life-world' (or the *Natural World* in Patočka's words) bears witness to this basic inspiration of phenomenology. The interpretation of the life-world, however, did find its primary setting within the confines of subjectivity. Despite being confident of its validity, Patočka's *Natural World* turns into a document for the dissolution of this subjectivist approach. Subjectivity itself becomes the ultimate *explicandum*.

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Part III
Husserl's Phenomenology

Everydayness, Historicity and the World of Science: Husserl's Life-World Reconsidered

Dermot Moran

Abstract Husserl is credited with introducing the term 'life-world' (*Lebenswelt*) into twentieth-century philosophy. Many European philosophers – including Jan Patočka, Jürgen Habermas, Niklas Luhmann, and Hans Blumenberg – have embraced Husserl's conception and have integrated it into their own thinking, albeit interpreted in different ways. Husserl introduces the life-world in his *Crisis of European Sciences* Section 9 (1936) as the "forgotten meaning fundament of natural science" and goes on, in the course of that work, to characterise the life-world in not entirely compatible ways. Despite the large literature on Husserl's conception written since then, in many ways the concept remains deeply problematic. In this paper, I trace the main contours of Husserl's concept and I argue that the life-world as the ultimate context and horizon of human experience must be thought of not just as the counterpart of the scientific world, but as the inherently communal world, the world 'for others', the world available 'for everyone' (*für jedermann*), the historical world.

Keywords Phenomenology • History • Historicity • Life-world • Husserl

> In Husserl's later work the magic word *Lebenswelt* (lifeworld) appears – one of those rare and wonderful artificial words (it does not appear before Husserl) that have found their way into the general linguistic consciousness, thus attesting to the fact that they bring an unrecognized or forgotten truth to language. So the word "*Lebenswelt*" has reminded us of all the presuppositions that underlie all scientific knowledge. (Gadamer 1998: 55)[1]

In the three-quarters of a century since Husserl announced his conception of the life-world (*Lebenswelt*) as the "forgotten meaning fundament of natural science" in Section 9 on 'Galileo's Mathematization of Nature' in his *Crisis of European*

[1] As I shall point out below, it is inaccurate for Gadamer to claim that the word '*Lebenswelt*' does not appear before Husserl; the term is listed, for instance, in Grimm's *Deutsche Wörterbuch* of 1885, see Editor's Introduction in Husserl 2008: xlvi.

D. Moran (✉)
University College, Dublin, Ireland

Murdoch University, Perth, Australia
e-mail: dermot.moran@ucd.ie

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Sciences (Husserl 1970),[2] a section written in 1936, much has been written to clarify Husserl's concept; and yet it remains deeply problematic. Many twentieth-century European philosophers – including Jan Patočka (Patočka 1976, 2008 [1936]), Jürgen Habermas (Habermas 1984, 1987),[3] Niklas Luhmann (Luhmann 1995: 69 ff)[4] and Hans Blumenberg (Blumenberg 1986) – have embraced Husserl's conception and have integrated it into their own thinking.

As early as 1936, prior even to the publication of Husserl's *Crisis* articles in *Philosophia* (which actually appeared in early 1937), the young Czech philosopher and student of Husserl, Jan Patočka, published his Habilitation thesis in Czech entitled *The Natural World as a Philosophical Problem* (Patočka 2008 [1936]). In this original and groundbreaking work, Patočka employed Husserl's concept of the life-world as a way of understanding communal human existence and applying it to Heideggerian problems connected to historicity and finitude.

Similarly, the phenomenological sociologist Alfred Schütz was drawn to the concept of the life-world early on. Already in Husserl's lifetime, Schütz wrote on human natural and social experience in his *Der sinnhafte Aufbau der sozialen Welt* (translated as *The Phenomenology of the Social World*) (Schütz 1972, 1974 [1932]); a work that was praised by Husserl, and which appeared 4 years before Husserl's own *Crisis* (1936) but was based on close contact with the Freiburg master. In his 1932 work, Schütz distinguishes three kinds of world on the basis of relation to temporality: the "world of contemporaries" (*soziale Mitwelt*), "world of predecessors" (*Vorwelt*) and the "world of one's successors" (*Folgewelt*), as well as the social world of the present, which he calls "the realm of directly experienced social reality" (Schütz 1972: 142–144).[5] Schütz also explicitly invokes the "environment" (referring to Husserl 1983: §41),[6] which he defines as "that part of the external world that I directly apprehend", including not just natural objects but social objects, languages, and so on (Schütz 1972: 170). This is what Schütz calls "the world of the we" (Schütz 1972: 171). It is the public social world. In his analyses Schütz emphasises the stratification of the life-world into zones and hierarchies, the manner in which experience is "typified" (organised around identifiable empirical types such as 'dog', 'tree' and so on), and the manner in which a background has to

[2] German edition: Husserl 1954. This edition includes Parts I and II of the *Crisis* published in Husserl 1936, the text of Part III (prepared for publication by Husserl but withdrawn) as well as a selection of associated documents. It is partially translated by David Carr (Husserl 1970). Hereafter the *Crisis of European Sciences* will be cited as '*Crisis*', followed by the page number of the Carr translation (where available) and followed by the Husserliana volume square brackets. For a commentary on the *Crisis* including a discussion of the life-world, see Moran 2012.

[3] Note especially the title of Volume II, subtitled *Lifeworld and System: A Critique of Functionalist Reason*.

[4] He explicitly invokes Husserl's notion of the world as the horizon of all meaning, and the 'life-world' as the "unproblematic background of assumption" (Luhmann 1995: 70).

[5] Schütz credits Schiller for the term *Folgewelt*.

[6] German edition: Husserl 1976. Henceforth, English translation cited with German page reference, which is included in the margins of the translation.

have *relevance* to the issue on hand in order to motivate action (see Schütz 1966b). In his later publications, written in the USA in English (see, for instance, Schütz 1966a), Schütz wrote extensively on the life-world and, through his work, it became an important theme in American sociology, especially in the 1970s (see Schütz and Luckmann 1973).

The German critical theorist Jürgen Habermas, in his *Theory of Communicative Action* (Habermas 1984, 1987),[7] acknowledges that he borrowed his concept of the life-world from Husserl and Schütz (see Rasmussen 1984). Following Husserl, Habermas emphasises the 'always already there' character of immediate certainty that belongs to this world (Habermas 1998b: 243). Thus he defines life-world as the "horizon within which communicative actions are 'always already' moving" (Habermas 1987: 119).

Similarly, for Habermas, as for Husserl, the life-world is the overall 'horizon' within which human agents act. It is the culturally transmitted and linguistically structured backdrop of all meaningfulness in our human lives. According to Habermas, Husserl's life-world "forms a counter-concept to those idealizations that first constitute the object domain of the natural sciences" (Habermas 1998a: 239). It is an explicitly concrete notion. However, Habermas goes on to criticise Husserl for not also recognising (due to what Habermas claims is Husserl's blindness to "linguistic intersubjectivity") that the life-world itself demands certain idealisations, namely the *validity claims* that transcend local circumstances, and are carried by the linguistic practices of the community. Life-world, for Habermas, is made possible only through intersubjective communicative action. Thus Habermas proposes to relinquish "the basic concepts of the philosophy of consciousness in which Husserl dealt with the problem of the lifeworld", so as to understand the life-world as "represented by a culturally transmitted and linguistically organised stock of interpretive patterns" (Habermas 1987: 124). For him, language and communication are constitutive of the life-world. On the other hand, Habermas sides with Husserl in being interested not so much in the factical features of specific life-worlds but rather in the invariant formal structural features according to which the life-world functions as a horizon for communication and discourse.

The German philosopher of transcendental semiotics, Karl-Otto Apel, similarly acknowledges positively the "quasi-transcendental status" of the pre-given life-world in Husserl but sides with Martin Heidegger in believing this world to be historically conditioned, public, and linguistically mediated; conceptions Apel believes (erroneously, I would maintain, in the light of my account in this paper) to be missing from what he characterises as Husserl's "evidence–theoretic" conception (Apel 1998). In fact, a long line of German thinkers including Theodor Adorno (see, for instance, Adorno 1940),[8] Hans-Georg Gadamer (especially in his

[7] Especially Volume II (Habermas 1987).

[8] In this text Adorno makes reference to Husserl's *Philosophia* articles as situating psychologism in the whole history of modern philosophy from Descartes.

Truth and Method) (Gadamer 2004: esp. 243–254),[9] Helmuth Plessner, Herbert Marcuse (Marcuse 1964: 162–166),[10] Klaus Held (Held 2003), Bernhard Waldenfels (see, for instance, Waldenfels 1990, 1995), Dieter Lohmar (see the essays in Mall and Lohmar 1993) and Elmar Holenstein (Holenstein 1998) have all been directly influenced by Husserl's late reflections on the life-world in the *Crisis*, and have incorporated this notion into their own work.

Despite – or perhaps because of – this long tradition of invocation and discussion of the life-world, the deep meaning and transcendental sense of Husserl's concept of the life-world remains troublingly obscure.[11] In this paper, therefore, I shall examine Husserl's scattered remarks about the life-world (primarily in *Crisis*, especially §§33–38, §43, and §51), in order to try to present a coherent exposition of this influential yet ambiguous concept. I shall explicate how the 'life-world', for Husserl, is both an empirical and a transcendental concept. Furthermore, I shall address the question as to how the life-world can function both as a universal *ground* (*Grund*, *Boden*) of all experience and as a potential *horizon* (*Horizont*) for experience. Husserl characterises the life-world in both ways and they certainly appear to be in tension with each other. Overall, I shall argue that Husserl's conception of the life-world as a dynamic historical horizon for human activity pushes the concept in the direction of the 'historical *a priori*' which he was exploring in his late writings.

What Kind of Concept Is the Life-World?

The first question that must be asked is the following: what kind of concept is the concept of the *Lebenswelt*? Is it an empirical or a transcendental concept? Or does it somehow operate in both the empirical and transcendental domains?

The life-world, in Husserl's hands, is a rich and multifaceted notion with some apparently paradoxical or even contradictory features that have puzzled and frustrated even sympathetic commentators. Thus David Carr, the translator into English of Husserl's *Crisis*, for instance, speaks of "many faults and confusions in his (Husserl's) exposition" of the life-world (Carr 2004: 359). Similarly, Toru Tani points out that Husserl introduced the life-world primarily to offer a grounding and

[9] In this section, Gadamer discusses Husserl's later conception of life in relation to Dilthey, Count Yorck and Heidegger. According to Gadamer, Husserl shares with Dilthey a distrust of the Neo-Kantian conception of the lifeless cognitive subject. Both wanted to infuse the transcendental subject with life. Husserl, however, in his later work, realised the importance of the phenomenon of world which is constituted by a "fundamentally *anonymous* intentionality" (Gadamer 2004: 246).

[10] Herbert Marcuse discusses Husserl's analysis of Galileo and the way in which a 'cloak of ideas' (*Ideenkleid*) has been cast over the natural world by the mathematical sciences. Marcuse takes Husserl's point further in emphasising that the sciences have always linked the projects of the domination of nature and the domination of humankind (Marcuse 1964: 166).

[11] Among the important recent discussions of the life-world are Sowa 2010 and Luft 2011.

unity to the concept of the world found in the natural sciences, and yet goes on in the *Crisis* to think of the life-world as the concrete historical world (Tani 2004 [1986]). The life-world is a world of cumulative tradition acquired through what Husserl calls *sedimentation* (*Sedimentierung*) (Husserl 1970: 362 [372]), according to which certain earlier experiences become passively enfolded in our ongoing experience, just as language retains earlier meanings in its etymologies. As Husserl says in the 'Origin of Geometry', "cultural structures, appear on the scene in the form of tradition; they claim, so to speak, to be 'sedimentations' (*Sedimentierungen*) of a truth-meaning that can be made originally self-evident" (Husserl 1970: 367 [377]). Indeed, Husserl speaks of 'sedimentation' as "traditionalization" (Husserl 1970: §9 h, 52 [52]).[12] In this sense, Husserl speaks of the life-world as a world of "living tradition" (Husserl 1970: 366 [376]). Husserl's former student Aron Gurwitsch correctly captures this aspect of life-world when he writes: "The term *Lebenswelt has essentially a historico-social connotation:* a *Lebenswelt* is relative to a certain society at a given moment of its history" (Gurwitsch 1957: 357, emphasis in original). Hans-Georg Gadamer, similarly, writes:

> The concept of the life-world is the antithesis of all objectivism. It is an essentially historical concept, which does not refer to the universe of being, to the 'existent world.' ... the life world means something else, namely the whole in which we live as historical creatures. (Gadamer 2004: 247)

This is an apt formulation: the life-world is that in which we live as historical and communal beings. It has to encompass the historical evolution of world.

Tani further wants to distinguish the life-world understood as "the world of transcendental life" from Alfred Schütz's conception of the life-world as the world of concrete daily life. Two questions have to be addressed: is Husserl's conception of the life-world a transcendental or a naturalistic conception? And is this exactly where the notion of the historical *a priori* comes into play?

Husserl's own discussion is confusing. He sometimes talks explicitly about the human life-world or human environment (*die menschliche Lebensumwelt*) and seems to be primarily interested in the kind of historical worlds (and world views) that humans have occupied in different cultures and at different times. In this regard, he speaks of 'life-worlds' in the plural. He rarely discusses non-human life-worlds, although he does talk of animals, plants and nature as forming part of the human life-world. On the other hand, as Rochus Sowa points out, Husserl's real focus is on the *a priori* essential (eidetic) structures that belong to any life-world whatsoever (Sowa 2010). He is in this sense interested in the eidetic laws that make possible worldhood as such, the nature of horizonality, the nature of temporalisation into the past and future, the manner in which intentional anticipations are directed within this life-world, the structures of sedimentation, and so on. Here Husserl insists on the *unity* of the life-world and its overall *universal*

[12] Husserl usually employs the verb 'to sediment' (*sedimentieren*) or the verbal noun 'sedimentation' (*Sedimentierung*); see, e.g. Husserl 1970: 149, 246, 362 [152, 249, 373].

structure. In order to make clear how Husserl's use of the term developed, let us look back over the occurrences of it in his works.

The Evolution of the Term '*Lebenswelt*' in Husserl

Husserl begins to use the term 'world' (*die Welt*) already in *Ideas* I,[13] where he speaks of world in terms of the "horizon" surrounding our perceptions, and of the "world of appearance" (*Erscheinungswelt*) (Husserl 1983: §41) and the "world of experience" (*Erfahrungswelt*) (Husserl 1983: §§47–48). The "natural, surrounding world" (*die natürliche Umwelt* is discussed in *Ideas* I in terms of the experience of life in the natural attitude (Husserl 1983: §§27–29). He even uses the term "environment" (*Umgebung*), but the term *Lebenswelt* does not begin to appear in his research writings until his Freiburg period, from around 1917. The term *Lebenswelt* has only a marginal appearance – it occurs a total of four times – in the *Cartesian Meditations,* all in Section 58 (Husserl 1960).[14] Husserl's *Crisis,* therefore, remains the main locus in Husserl's published works (i.e. the works he published during his own lifetime) for the term. The *Crisis* offers an extensive yet somewhat formal treatment of the concept of the 'life-world' or 'world of life' (*Lebenswelt*). It is in the *Crisis* that Husserl claims to have uncovered the life-world as a fundamental and novel phenomenon previously invisible to the sciences and to have identified it for the first time as a "universal problem" (Husserl 1970: §34). Indeed, there is – as Husserl himself insists – a specific and entirely new science of the life-world itself that would, among other things, offer a new basis for grounding the natural and human sciences (Husserl 1970: §51). There never has been such an investigation of the 'life-world' as "subsoil" (*Untergrund*) for all forms of theoretical truth (Husserl 1970: 125 [127]). This science of the life-world would be descriptive of the life-world in its own terms, bracketing conceptions intruding from the natural and cultural sciences (this requires a special *epochē*, as Husserl says in Husserl 1970: §36), and identifying the "types" (*Type*) and "levels" (*Stufe*) that belong to it. In this sense, Husserl speaks of an "ontology of the life-world" (*Ontologie der Lebenswelt*) (see Husserl 1970: §51; 1992: 140). For Husserl, the life-world is thus uncovered as a new theme for science, and as a new domain for scientific exploration. The problem of the life-world as discussed by Husserl is related to a cluster of other

[13] On the various senses of 'world' in Husserl, see Bernet 1990. *Ideas* I is famous or notorious for its thought experiment concerning the possible "annihilation of the world" (*Weltvernichtung*).

[14] French translation: Husserl 1931. The German text was not published until 1950 (Husserl 1950). Hereafter referred to with English and [German] page numbers. The term 'life-world' appears four times in *Cartesian Meditations* §58 (Husserl 1960: 133–136 [160–163]) in regard to the topic of the "constitution of humanity" as an I that lives in a plurality of other I's in an overall "surrounding world" [*Umwelt*] (Husserl 1960: 133, 135 (twice), 136 [160, 162, 163]). Of course, the term *Lebenswelt* was in use in Husserl's manuscripts from around 1917 and in Heidegger's lectures from 1919.

notions, including "horizon" (*Horizont*), "surrounding world" (*Umwelt*),[15] "environment" (*Umgebung*),[16] "world view" (Husserl uses various terms including *Weltanschauung* and *Weltvorstellung*), and even the late concept of "generativity" (*Generativität*); i.e. the manner in which human lives intersect across a chain of generations, leading to the overall and complex problem of the constitution of 'tradition' and indeed the "a priori of history". Finally, in Husserl, the life-world has to be understood as both the "personal world" (*die personliche Welt*) and the "historical world". Paradoxically, the life-world, as the personal, historical world, is not just opposed to the 'world of science' but also includes it. Husserl's life-world, then, is a complex notion that needs a great deal of unpacking.

In his lectures that were published posthumously as *The Basic Problems of Phenomenology* (1910/1911).[17] Husserl's interest in what later became the life-world is found initially in his discussion of the "natural concept of the world" as found in Richard Avenarius (Avenarius, 2005 [1891]). *Ideas* II also contains a long discussion of the "spiritual world" (*die geistige Welt*), and indeed it is in one of the supplementary texts associated with *Ideas* II that we find *Lebenswelt* used for the first time (Husserl 1989: 284, 374–375).[18] In this supplement Husserl writes that the "life-world of persons escapes natural science" (Husserl 1989: 375). The term 'life-world' also appears in Husserl's Kant Society lecture of 1924 (Husserl 1965c: 232), in the lecture course *Phenomenological Psychology*, 1925 (Husserl 1968: 240, 491, 496),[19] where it is given extensive treatment and the idea of a twofold science of the life-world (empirical and *a priori*) is first raised[20]; as well as in the supplements to

[15] At times Husserl tends to use "life-world" and "surrounding world" (*Umwelt*) as equivalent terms, but at times he also differentiates them. "Surrounding world" [*Umwelt*] – Cairns's and Carr's translation to capture the '*Um-*' which means 'around' or 'surrounding' – is sometimes given a more restricted meaning, for example, for the 'habitat' of an animal; whereas 'life-world' is treated as a more fundamental context in which all meaningful activity and passivity occurs.

[16] Husserl tends to use the word '*Umgebung*' (Cairns and Carr translate this primarily as 'environment') for the narrow background against which perceptual objects appear; see Husserl 1960: 79 [113]; 1970: §72, 260 [264]; 1954: 480 & 487. Husserl speaks of the "I-environment" (*Ich-Umgebung*) and the "environment of persons that surrounds each of us". Overall, the term '*Umgebung*' has less than a dozen occurrences in the *Crisis* Husserliana VI edition. However, Husserl is not exact in his use of these terms and sometimes uses '*Umgebung*' in place of '*Umwelt*' for the habitat of animals and humans, see Husserl 1954: 354.

[17] These lectures were first printed as '*Grundprobleme der Phänomenologie*' (Husserl 1973a). English translation: Husserl 2006. Hereafter followed by page numbers in English translation and [Husserliana volume]. See, for instance, Husserl's discussion of the "natural concept of the world, i.e., that concept of the world in the natural attitude" (Husserl 2006: 15 [125]).

[18] German edition: Husserl 1952. Here and henceforth, English translation cited with German page reference, which is included in the margins of the translation.

[19] Partially translated into English by John Scanlon (Husserl 1977). Henceforth, only German edition referenced.

[20] Rochus Sowa lays great stress on the importance of these 1925 lectures for first outlining Husserl's conception of an overall science of the life-world that can be pursued in both an empirical and an *a priori* eidetic manner (Sowa 2010).

Husserl's lectures on *Nature and Spirit* (Husserl 2001b). In the Kant Society lecture Husserl speaks of the results of the phenomenological method as follows:

> The world took on an infinite wideness as soon as the actual life-world, the world in the 'how' of the givenness of mental process [*die wirkliche Lebenswelt, die Welt im Wie der Erlebnisgegebenheit*], was observed. It took on the whole range of the manifold subjective appearances, modes of consciousness, modes of possible position-taking; for it was, for the subject, never given otherwise than in this subjective milieu, and in purely intuitive description of the subjectively given there was no in-itself that is not given in subjective modes of the for-me or for-us, and the in-itself itself appears as a characteristic in this context and has to undergo therein its clarification of sense. (Husserl 1974b: 11 [232])[21]

In 1992, other important research manuscripts broadly associated with the *Crisis* – including the text of Husserl's Prague lectures of November 1935 – were published in German as Husserliana Volume XXIX with many new texts on Husserl's concept of life-world (Husserl 1992). A further large volume of writings on the 'life-world' (*Lebenswelt*), yielding a huge amount of new information, appeared as Husserliana Volume XXXIX in 2008 (Husserl 2008). These texts add greatly to our understanding of the life-world as Husserl came to understand it, but do not resolve the problems associated with it.

Of course, Husserl did not invent the term 'life-world' (*Lebenswelt*), and in this regard Hans-Georg Gadamer is simply wrong to claim that he did. The German term '*Lebenswelt*' was already in use well before him. Indeed, the term has a pre-history in the mid-nineteenth and early twentieth century in, for instance, Jacob and Wilhelm Grimm's *Deutsche Wörterbuch* of 1885 (see Husserl 1992: xlvi), where a reference is found to the use of the term by Ehrenberg in 1847. Somewhat later, in the early twentieth century, the poet Hugo von Hoffmansthal (around 1907/1908) and the life-philosophers Georg Simmel (in a work from 1913) and Rudolf Eucken also employed the word '*Lebenswelt*' in their writings. Another very similar word, '*Lebewelt*' (world of living things), is to be found among geologists and palaeontologists (e.g., Karl Diener, 1862–1928) to refer to the world of flora and fauna (the living world), and, indeed, Husserl himself uses both '*Lebewelt*' and '*Lebenswelt*' (Orth 2000). Thus, for example, Husserl himself already employs the word 'living world', or what one might call the 'organosphere' (*Lebewelt*), in *Ideas* I (Husserl 1983: 115 – it appears in all three editions published during his life). To complicate matters, the late editor of the Husserliana edition, Karl Schuhmann, replaced this term *Lebewelt*, which he assumed was a misprint, with the word '*Lebewesen*', based on a similar context in which that latter word appears in *Crisis* (Husserl 1970: §69, 239 [242]); which is, to my mind, an odd kind of reasoning. Why should an occurrence of a word in a later text be used to correct the occurrence of another word in an earlier text? It is actually more probable that the term is not a typographical error and that Husserl himself wanted to talk about the '*Lebewelt*'.

[21] German edition: Husserl 1965a, b. Here and henceforth, English translation cited with page numbers in English and [German].

It is not clear whether Husserl knew of the occurrence of the term '*Lebenswelt*' as used by Georg Simmel and others. Presumably it was a term that was simply gaining currency at that time; it appears for instance in Martin Heidegger's early lecture courses from his Freiburg period (1919). As previously mentioned, the proximate source for Husserl's conception of life-world is actually Richard Avenarius's conception of the 'natural world', to which Husserl adverts in many of his writings, including the *Basic Problems of Phenomenology* lecture course of 1910/1911 (Husserl 2006: esp. §§8–10, 12–28 [122–138] and Appendix III, 107–111 [196–199]). Husserl was deeply interested in the discussion of the 'pre-found' world of experience in Avenarius, an early positivist (1843–96),[22] and in the similar conception of the world of naive experience found in the philosopher and physicist Ernst Mach (1838–1916) (see, for instance, Mach 1914).

Richard Avenarius advocated a scientific view that was termed "empirio-criticism". According to this position, the natural concept of the world is simply an experience of the world as a constant stream of changing appearances (*Variationserscheinungen*). There is operative, for Avenarius, a "principle of co-ordination" (*Prinzipialkoordination*), according to which we experience constancy in this world of fluctuating experiences (Husserl 2006: 109 [198]). We encounter things already as "pre-found" (*das Vorgefundene*) in these experiences, and we attach "significance" (*Deutung*) or value to them. Furthermore, according to Avenarius, we experience others as having similar experiences to ourselves, and similarly we share an "experience of our environment" (*Umgebungserfahrung*) in which we are involved and which develops alongside us as we develop. Husserl admires much of Avenarius's description, which he takes to be a reasonably accurate description of our naive experience of the world, but he criticises Avenarius for not recognising the need for the application of the phenomenological *epochē*, or bracketing, which would allow this whole domain to come to light. In other words, Avenarius fails to recognise the need for the specifically *phenomenological attitude* (Husserl 2006: 110 [198]). Avenarius, according to Husserl's diagnosis, remains, then, a prisoner of naturalism, despite his own efforts to avoid metaphysical constructions and materialism in general.

As we have seen, 'life-world' (*Lebenswelt*), for Husserl, is a term that has many significations, depending on the context, and the term takes on richer and richer significance in Husserl's later work. Thus A.F. Aguirre has summarised Husserl's treatment of the life-world in the *Crisis* under a number of helpful headings in relation to the sections of the work in which they appear (Aguirre 1982: 87):

- "the forgotten meaning-fundament of natural science" (*vergessenes Sinnesfundament der Naturwissenschaft*) (Husserl 1970: §9 h, 48 [48]);
- the unexplored presupposition for Kant's philosophy (Husserl 1970: §§28–32);

[22] The title literally means 'The Human Conception of the World'. Unfortunately, this book is not translated into English. Avenarius speaks of the world as 'pre-found' or 'found in advance' (*das Vorgefundene*). For Husserl's discussion of Avenarius, see Husserl 2006: 22–28 [132–138] & 107–111 [196–199].

- the pre-given world, the correlate of the natural attitude (Husserl 1970: §38);
- the theme of historians who try to reconstruct the life-worlds of peoples (Husserl 1970: §38 147 [150]);
- the theme of a non-transcendental ontology (Husserl 1970: §37);
- the theme of a transcendental science (Husserl 1970: §38);
- the unthematised horizon which has never been brought to explicit attention.

One could add further characterisations. Husserl often characterises the life-world as "intuitive" (*anschaulich*), "real" (*real*), "concrete" (*konkret*), in contrast to the world of mathematical natural science which is "objective", "ideal" and "abstract" (Biemel 2000). It connotes primarily the "world of experience" (*Erfahrungswelt*) as immediately given and intuited as something already there and 'taken-for-granted' or "obvious" (*selbstverständlich*). This is perhaps the oldest meaning in Husserl's discussions. As we saw above, Husserl introduces the term 'life-world' to encompass – or indeed sometimes replace – other terms he had been employing, including the "natural world" (*die natürliche Welt*), "the intuitively given surrounding world" (*die anschauliche Umwelt*) (Husserl 1970: §9a, §59), the "straightforwardly intuited world" (Husserl 1970: §33), the "taken-for-granted, pregiven world of experience, the world of natural life" (Husserl 1970: 204 [208]), the "environment" (*Umgebung*), the "world of experience" (*Erfahrungswelt, Erlebniswelt*), the world of culture (*Kulturwelt*) (Husserl 1968: 113), "world-life" (*Weltleben*), the "human world", and so on (Orth 1999: 132–136). These are in one sense all overlapping domains; on the other hand, it is normally the case that the positive sciences – both natural and human sciences – categorise these domains in different ways.

The most prominent characteristic that Husserl attributes to the life-world – and indeed the earliest characterisation of it that he offers – is that the life-world is always "pre-given" (*vorgegeben*), always "on hand" (*vorhanden*) (Husserl 2006: 107 [196]). Husserl speaks repeatedly of the phenomenon of the "pre-givenness" (*Vorgegebenheit*) of the world, prior to all theorising. In this sense, the life-world is insurmountable, and Husserl speaks of it as possessing a certain 'unsurpassability' (*Unhintergehbarkeit*). It cannot be shaken off or transcended; we cannot get behind it or leave it behind, as it were. Even the occupants of the Mir space station must bring their life-world with them, they need to have not just air, food, shelter and protection from physical threats, but also a genuinely human world, time for sleeping and eating, communication, a sense of belonging to a community, and so on. All this humans bring with them, just as – to use an image of Heidegger's, snails carry their shells on their backs.

One of Husserl's primary claims in the *Crisis* is that the life-world is the permanent backdrop (he sometimes uses the word *Hintergrund* (Husserl 1970: 189 [192])) of all our experience, although it is rarely foregrounded for explicit scientific examination:

> Consciously we always live in the life-world; normally there is no reason to make it explicitly thematic for ourselves universally as world. (Husserl 1970: 379 [459])

As a background concept, Husserl's concept of the 'life-world' is not just a new additional broad term for the *world as a whole* (*Allwelt*), the totality of all things, and it is certainly not to be identified with the philosophical idea, later developed by the modern mathematical sciences, of 'the world in itself' (*Welt an sich*), or 'the true world' (*die wahre Welt*); rather, it is, as Bernhard Waldenfels puts it, a "polemic counter-concept" that Husserl introduces to counteract and correct various modern scientific and philosophical tendencies of conceiving the world, including the leading Neo-Kantian conception of world found among his contemporaries (Waldenfels 1998: 72). In this sense, Husserl's conceptualisation of the 'life-world' acts as a counterpoint to his analysis of the nature of formalised scientific knowledge and the manner in which technological advances made possible by this formalisation have shaped modern culture. It must be borne in mind that Husserl was writing at the very time when the logical positivists of the Vienna Circle[23] were advocating in opposition to everyday experience a 'scientific conception of the world' (*eine wissenschaftliche Weltauffassung* – the term itself is found in the *Manifesto* of the Vienna Circle).[24] According to the Vienna Circle *Manifesto*:

> The scientific world conception is characterized not so much by theses of its own, but rather by its basic attitude, its points of view and direction of research. The goal ahead is unified science.

Husserl strongly opposes this attitude of scientisation of the life-world. In a supplement to *Ideas* II Husserl writes that "[t]he life-world of persons escapes natural science, even though the latter investigates the totality of realities" (Husserl 1989: 374). Furthermore, in *Ideas* II, Husserl sharply contrasts objects of nature in the scientific sense with everyday natural-attitude objects of experience:

> In ordinary life [*im gewöhnlichen Leben*] we have nothing whatever to do with nature-objects [*Naturobjekten*]. What we take as things are pictures, statues, gardens, houses, tables, clothes, tools, etc. They are value-objects [*Wertobjekte*] of various kinds, use-objects [*Gebrauchsobjekte*], practical objects. They are not objects which can be found in natural science. [*Es sind kein naturwissenschaftlichen Objekte*]. (Husserl 1989: §11, 27)

Tables and chairs are not natural objects in the world alongside protons, neutrons and electrons. Scientific entities can be grasped only under a new and very special attitude. It is perhaps the case that Husserl did not pay enough attention to the distinction between objects which actually belong to the life-world but which can perhaps only be observed through microscopes or telescopes (because they are very

[23] On the complex history of the Vienna Circle, logical positivism and logical empiricism, see Uebel 2003; Richardson and Uebel 2007; Stadler 2004, 2001.

[24] Between 1928 and 1937, the very period in which Husserl was developing his views on the *Lebenswelt*, the Vienna Circle published ten books in a collection named *Schriften zur wissenschaftlichen Weltauffassung* (*Writings on the Scientific World-Conception*), edited by Moritz Schlick and Philipp Frank. For the text of the Manifesto of the Vienna Circle, see Sarkar 1996.

small, e.g. dust mites, or very far away) and theoretical entities which are unobservable.

The life-world also has an inescapably *subjective* and intersubjective character that cannot be completely objectified. The life-world is "a realm of subjective phenomena" (Husserl 1970: §29). It is the sphere of the "merely subjective relative" (*bloss subjektiv-relativ*), in contrast to what is objectively there as established by science. This intersubjective and personalistic sense of life-world is a complicating factor; it cannot simply be viewed – as the naturalized sociological sciences do – as simply the world of culture, understood in an objectified sense, as something ('behaviour') that can be studied objectively from the third-person standpoint. The personal character of world makes it a domain of appearing that is always perspectival, partial and one-sided, first and second personal. There can be no 'view from nowhere' (Husserl's follower Maurice Merleau-Ponty is perhaps the first to speak of *la vue de nulle part*) concerning the life-world.

Living in the World of 'Everydayness' (*Alltäglichkeit*) and Belief in Being (*Seinsglaube*)

The primary meaning of the life-world is, for Husserl, as we have seen, the "world of everyday experience" (*Alltagswelt*), the "intuitive" world (*die anschauliche Welt*) or the "pre-given" surrounding world (Husserl 1970: 47 [47]). In the *Crisis*, the term *Lebenswelt* first appears in Section 9h in the discussion of Galileo, where it is introduced as "the forgotten meaning-fundament of science" (Husserl 1970: 48 [48]). The life-world and its structures are precisely what get covered up by the "cloak of ideas" (*Ideenkleid*) of modern mathematical science. Husserl writes:

> Prescientifically, in everyday sense-experience, the world is given in a subjectively relative way. Each of us has his own appearances; and for each of us they count as [*gelten als*] that which actually is. In dealing with one another, we have long since become aware of this discrepancy between our various ontic validities [*Seinsgeltungen*]. But we do not think that, because of this, there are many worlds. Necessarily, we believe in the world, whose things only appear to us differently but are the same. (Husserl 1970: §9, 23 [20])

Husserl even speaks in the *Crisis* §72 of the "subscientific everydayness of natural life" (Husserl 1970: 260 [264]), here using the very term 'everydayness' (*Alltäglichkeit*), which has more usually been associated with Heidegger's analysis of *Dasein* in *Being and Time* (Heidegger 1962: §52).[25] Furthermore, and tellingly, both Husserl and Heidegger speak about *absorption* in everyday life, spontaneous "living along" (*Dahinleben*) (Heidegger 1962: 396 [345]). In discussing the everyday character of experience Husserl stresses the 'taken for granted nature' of reality, the manner in which things appear as definitely there, presented in the context of a

[25] German edition: Heidegger 1977. Henceforth English translation is cited with page number of English translation and [German Edition].

certain embodied experience of space, time and causality; whereas Heidegger stresses more the nature of everyday moods, indifference, and the experience of temporality (including being-towards death).

Husserl and Heidegger both use the German verbs '*dahinleben*' ('to vegetate') and '*hineinleben*' ('to take each day as it comes', 'to go with the flow') to express existence in the everyday world – living in an inauthentic manner, as Heidegger will say.[26] For Husserl, as for Heidegger (whose equivalent concept is 'being-in-the-world' (*In-der-Welt-sein*) as elaborated in Heidegger 1962: §§12–13), human beings are beings who essentially live 'immersed' in a *world* understood as a vaguely defined context of meaning and action. As Husserl's student Ludwig Landgrebe writes (summarising Husserl):

> It is essentially impossible to find men in any 'pre-worldly' state, because to be human, to be aware of oneself as a man and to exist as a human self, is precisely to live on the basis of a world. (Landgrebe 1940: 53)

Unlike Heidegger, Husserl does not characterise everyday living in the world in a somewhat prejorative manner. It is not 'inauthentic' for Husserl, rather it is 'naive', living life 'with blinkers on' as he sometimes says. It is a kind of life that is asleep, unaware of itself. In one of the earliest occurrences of the term 'life-world', in Supplement XIII of *Ideas* II (written around 1917–18) Husserl writes (and note the reference also to 'functioning subjects'):

> The life-world is the natural world – in the attitude of natural life [*Einstellung des natürlichen Dahinleben*] we are living functioning subjects [*fungierende Subjekte*] together in an open circle of other functioning subjects. Everything objective about the life-world is subjective givenness, our possession, mine, the other's, and everyone's together. Subjects and possessions are not equal; the subjects *are*, without qualification, what is not personal is surrounding world, what is lived is lived experience of the surrounding world [*Umwelt*], and that holds also for what is seen and thought, etc. (Husserl 1989: 375)

Heidegger himself states that it has become commonplace to say that humans require a 'surrounding world' or 'environment' (*Umwelt*) but the deeper ontological meaning of this statement is not appreciated – to be in a world is an *a priori* character of human existence (Heidegger 1962: 84 [57–58]). Husserl's version of this claim is to speak of natural 'world-life' (*Weltleben*) (Husserl 1970: 51 [51])[27] and he indeed characterises humans as essentially belonging to the world, as being, in his phrase, "children of the world" (*Weltkinder*); a term not used in the *Crisis* itself but occasionally found in other manuscripts from the 1920s and 1930s (Husserl 1965b: 169; 1968: §43 and pages 216, 239), where being a 'child of the world' is explicitly linked to living spontaneously in the naively experienced world of the natural attitude. In a supplementary text (No. 22) from the 1925

[26] The German verb '*hineinleben*' means literally 'to live into', 'to immerse oneself into', but it is used in colloquial German expressions to mean 'to take each day as it comes' [*in der Tag hineinleben*]. Similarly '*dahinleben*' has the colloquial sense of 'to vegetate' or 'to live lazily'.

[27] The term 'world-life' (*Weltleben*) appears in Husserl 1970: 68 [69], 119 [121], 125 [127], 255 [259], 284 [331].

Phenomenological Psychology lectures in Husserliana Volume IX, he speaks of living as a "world-child" and then of disrupting this world, breaking with its implicit "worldly belief" (*Weltglaube*):

> We can be children of the world [*Weltkinder*], we stand 'on the ground of the world', we are in the world, [this is] completely self-evident. We have the straightforwardly valid world, and everything new that inserts itself into its open unknown horizon unrolls in new experiences, in new anticipations of thought. That is simply the case – we live in this belief. And now precisely we do not want to be children of the world any more, we no longer want 'to live straightforwardly in belief in the world', we do not 'live in' all the passive belief-motivations and in the active mental doings of believing and 'have' according to them now this or that being on the universal ground of the existing world [*auf dem universalen Boden der seienden Welt*] with all the special meanings [*Sondermeinungen*] and validities belonging to it, that we had earlier carried out, through which we [constitute] our surrounding world with the being-content and sense [*mit dem Seinsgehalt und Sinn*], that we had earlier acquired, and which is now for us a habitual acquisition, to which we can return to hold on to as our familiar possession. (Husserl 1968: 462, my translation)[28]

The aim of transcendental phenomenology is, as Husserl always insists, to disrupt the natural flow of our spontaneous living in the world with all its habitualities, beliefs, acceptances, and to experience what that brings to light; namely, the interwoven character of our constituting activities through which we give 'sense and being' (*Sinn und Sein* or *Seinssinn*) to our world and everything in it.

The Intertwining of Nature and Culture in the Life-World

The life-world is often used to mean the whole set of intentional experiences that we have both of nature and culture. In his 1925 *Phenomenological Psychology* lectures, where the natural conception of the world is given a fairly full exploration, Husserl speaks of the "intertwining" (*Verflechtung*) or interpenetration between

[28] The German text (which is not translated in the *Phenomenological Psychology* volume reads: "*Wir können Weltkinder sein, wir stehen 'auf dem Boden der Welt', wir sind in der Welt – ganz selbstverständlich. Wir haben die schlicht geltende Welt, und alles, was sich in ihrem offen unbekannten Horizont an Neuem einfügt in neuen Erfahrungen, in neuen Denkantizipationen, das ist einfach so und da – wir leben im Glauben. Und nun wollen wir eben nicht Weltkinder sein, wir 'leben nicht mehr schlicht im Weltglauben', wir 'leben nicht in' all den passiven Glaubensmotivationen und aktiven Denktätigkeiten des Glaubens und 'haben' ihnen gemäss nun dieses und jenes Seiende auf dem universalen Boden der seienden Welt mit all den zugehörigen Sondermeinungen (uns geltenden), die wir früher vollzogen hatten, durch die wir uns unsere Umwelt mit dem Seinsgehalt und Sinn, den sie für uns hat, früher erworben haben und der nun für uns habitueller Erwerb ist, auf den wir nur zurückgreifen als auf unsere altbekannte Habe*" (Husserl 1968: 462). The text in Husserliana IX is actually incorrect as some words have been omitted. I quote the corrected text here as confirmed by Thomas Vongehr of the Husserl Archives, Leuven. I am also grateful to Sebastian Luft for checking the text and translation.

nature (as the object of the sciences and natural experience) and spirit (as culture) (see *Phenomenological Psychology* §16). The life-world, then, has to be understood as including all the things (and events) that surround us in life as perceptual objects, instruments and tools, food, clothing, shelter, art objects, religious objects, and so on. The life-world therefore encompasses both the world of what has traditionally been designated as 'nature' (as it presents itself to us *in our everyday dealings* with it, including rocks, mountains, sky, plants, animals, planets, stars, and so on, but understood in a pre-scientific sense – in the manner in which I see the moon rising or moonlight reflected on a lake); as well as what is usually known as the world of 'culture', including ourselves, other persons, animals in their social behaviour especially as it intersects with our lives, social institutions, artefacts, symbolic systems such as languages, religions, cultures – in other words, our overall natural and cultural environing world. It is precisely "the world of our interests" (*Interessenwelt*) (Husserl 1973b: 138), practical and theoretical, pre-reflective and reflective, everything we are engaged in actively or passively. It is the world of *praxis* as he will later describe it in his Vienna lecture. But this world also widens out into the "infinite world", as Husserl points out (Husserl 1973b: 138 ff). There are no finite boundaries that can be drawn; the life-world expands indefinitely in all directions, including in our directions of thought.

In *Crisis* §34, Husserl insists that we could develop an "ontology of the life-world" which would document the different "ways of being" (*Seinsweise*) of life-world entities understood as utensils, artworks, talismans, tokens, and so on; i.e. things as they *mean* to us in their specific senses, as they have a certain "value and validity" (*Geltung*) for us rather than "things of nature" (*Naturobjekte*) in the sense of science (Husserl 1970: §34). The life-world, in this sense, contains tables, chairs, pens, lights, and so on (which must never be confused with physical objects as understood by the sciences, i.e. the objects of physics). These are physical things and cultural objects at the same time. We live in a "culture-things-environment" (*Kultur-Sachen-Umwelt*), in "our practical living environment" (*unsere praktische Lebensumwelt*) (Husserl 1973b: 138). Of course, this practical everyday world has always included technological tools, implements, and so on, and these have a historical character. We simply accept the existence of electricity, the colour of electrical light from street lamps, the background noise of cars on the highway in the distance, the jet trails that criss-cross the sky.

How, then, can Husserl maintain and exploit the contrast between the life-world and the scientific world in cultures where science and technology mediate the experience of the world itself? If modern technological tools and practices are an integral part of the life-world, how can one still maintain the distinction between the world of naive experience and the scientific world with its own special objects (atoms, cells, neurons, black holes, and so on)? The life-world, on the one hand, on Husserl's conception, grounds and supports the world of science (which is essentially different from it); and, on the other hand, it also completely encompasses the world of science, since all scientists as human beings are themselves members of the life-world and scientific discoveries evolve in and are carried along by historical human communities and cultures. Husserl's answer is to point to life-world as a

horizonal structure; one that includes contexts, possibilities, temporal distantiations which are intuitively experienced and can never be objectified in science. Rather than being an extant totality of things, the life-world is actually a *horizon* that stretches from indefinite past to indefinite future and includes all actualities and possibilities of experience and meaningfulness.

Husserl and Kant on Whether the World Can Be Experienced

In his important 1924 lecture, 'Kant and the Idea of Transcendental Philosophy', delivered to the Kant Gesellschaft, in one of Husserl's relatively rare public addresses to his fellow philosophers, and in the *Crisis*, which has the character of a missionary tract, Husserl develops his conception of life-world in confrontation with Immanuel Kant's critical philosophy. Like Husserl, Kant too wants to account for the *a priori* constitution of the objective world and to explain why there is a 'fit' between the world as given in scientific knowledge and the activities of humans as embodied beings acting in space and time, connecting events in causal chains, and so on; but he naively assumes that the 'real' world is precisely nature as constructed by modern science, with its uniform notions of space, time, causation, continuity, identity, and so on. Kant did acknowledge the need to project a conception of the world as an unconditioned whole and as having a certain continuous and harmonious flow. He neglected the life-world, however, as the world experienced by embodied, fleshly subjects who act with the assumption that their world is shared intersubjectively.

Husserl opposes Kant's view that the world as such is not experienceable in itself. Kant has the view that the concept of the world as a whole is a limit concept that cannot be brought to intuitive fulfilment in any possible set of experiences. Already in his *Phenomenological Psychology* (1925) Husserl gives his assessment of Kant:

> Kant insists that the world is not an object of possible experience, whereas we continue to speak in all seriousness of the world precisely as the all-inclusive object of an experience expanded and to be expanded all-inclusively. (Husserl 1968: §11, 95)

For Husserl, contra Kant, there is a genuine experience – an intuition – of the world as a kind of vague background of our focused experiencing of objects. There is a direct and immediate "experience of the world" (*Welterfahrung*) as really there, in the present (Husserl 1965b). The world is grasped and co-intended as a *horizon* of experiences, and there is a genuine experience of the horizon or what Husserl calls "world-consciousness" (*Weltbewusstsein*). Husserl writes:

> The contrast between the subjectivity of the life-world and the 'objective', the 'true' world, lies in the fact that the latter is a theoretical–logical substruction [*Substruktion*], the substruction of something that is in principle not perceivable, in principle not experienceable in its own proper being, whereas the subjective, in the life-world [*das*

> *lebensweltlich Subjektive*], is distinguished in all respects precisely by its being actually experienceable. (Husserl 1970: §34d, 127 [130])

Husserl also criticises Kant's naive understanding of transcendental subjectivity. Kant never appreciated the depth of the Cartesian transcendental breakthrough in the *cogito*. But the main point I want to emphasise here is that the intuitive experience of the world is something very real – albeit the world is not intuited as a very large object, as it were.

The Life-World as Horizon

The life-world is characterised by Husserl, as we have seen, as a 'universal *horizon'* (*Horizont*) (Husserl 1970: 281 [327]). Husserl thinks of the 'world' in general as a horizon of horizons. Husserl's concept of *horizon* is innovative but it is also a complex and many-sided concept.[29] The foundational meaning of the notion of 'horizon' is the co-perceived context within which a perceived object is perceived; literally the visual backdrop to something seen. The term comes from the Greek *horizein*, which means 'to draw a boundary'; the Greek *horos* means 'boundary'. This is because Husserl always begins with perception as the basis form of consciousness. Each act of perceiving has not only its immediately focused object, but also the background horizon or 'halo' that is co-presented but not adequately filled in. The horizon also assumes a relation to the perspective of the perceiver; for example, the profile of the mountain as seen by me from this position. In his later writings, such as *Formal and Transcendental Logic* (1929), Husserl confesses that in his *Logical Investigations* he still lacked a concept of 'horizon-intentionality' to complement his object-intentionality (Husserl 1974a: 177).[30] Husserl goes on to say that every form of intentionality has its horizon-structure and suggests that horizons are "pre-delineated potentialities" that have a determinate structure and can be explicated even if they are essentially indeterminate (Husserl 1960: §19, 45 [82]). There are not just perceptual horizons in the present, there are also horizons stretching into the past and the future. History unfolds in horizon. In this regard humans live within the *horizons* of their historicity; 'horizon' here meaning a boundary, which at the same time provides a supporting context for comprehending life (Husserl 1970: §2). Horizon generally, then, expresses the idea of a certain indeterminate context that moves with the progress of the perceiver or agent. Horizon has both spatial and temporal connotations but its real sense for Husserl is as a kind of flexible and expanding 'context of sense or meaning', that has a momentum of its own. He explicates the concept of 'horizon' in his *Passive Synthesis* lectures, where he speaks of a "horizon of references" built in to the experience itself:

[29] On Husserl's concept of horizon, see Kwan 2004; Walton 2010.

[30] English translation: Husserl 1969. Henceforth, only German edition cited.

> . . .everything that genuinely appears is an appearing thing only by virtue of being intertwined and permeated with an intentional empty horizon, that is, by virtue of being surrounded by a halo of emptiness with respect to appearance. It is an emptiness that is not a nothingness, but an emptiness to be filled out; it is a determinable indeterminacy. (Husserl 2001a: 42 [45–46])[31]

A horizon, no matter how vague and amorphous, is not nothing. Horizons are characterised by their very nature as possessing a certain openness, indefinability, and a constantly shifting (withdrawing and at the same time drawing us further in) character. We can never arrive at a horizonal limit any more than we can literally find the end of the rainbow. In this regard, Husserl speaks of a peculiar "horizon-consciousness" (*Horizontbewusstsein*) (Husserl 1970: §47). This horizon can be understood as a network of intentional implications, a context, a framework, in many different senses. The point is that there is no experience without its horizons, just as each word in a language depends for its meaning on the other words in the language; or, as Heidegger points out, road signs form a system and a network where one sign assumes the existence and specific sense of the other signs. There is, furthermore, always, as a limit of all horizons, a "world-consciousness" (*Weltbewusstsein*) implicated in our intentional acts. World is the horizon of horizons.

According to Husserl, furthermore, the open horizon of the world includes, for example, my consciousness *of other humans*; even those not actually known to me:

> There need be no one in my perceptual field, but fellowmen [*Mitmenschen*] are necessary as actual, as known, and as an open horizon of those I might possibly meet. Factually I am within an interhuman present [*in einer mitmenschlichen Gegenwart*] and within an open horizon of mankind; I know myself to be factually within a generative framework [*in einem generativen Zusammenhang*], in the unitary flow of a historical development [*Geschichtlichkeit*] in which this present is mankind's present and the world of which it is conscious is a historical present with a historical past and a historical future. (Husserl 1970: §71, 253 [256])

This open horizon, for Husserl – as for Heidegger – has an *a priori* character. It is in part constituted through what Husserl calls "empathy" (*Einfühlung*), although this would require a much deeper discussion. Empathy is Husserl's name for a whole set of experiences that open on to the other – "other experience" (*Fremderfahrung*). As Merleau-Ponty will later recognise, the constitution of the other person is very much implicated in the more general problem of the constitution of the world.

[31] German edition: Husserl 1988. Henceforth, the English translation is cited with page numbers in English and [Husserliana volume].

Life-World as 'Fundament', 'Ground' and 'Underground'

In contra-distinction to the characterisation of life-world as a horizon with all its connotations of openness, Husserl also characterises the life-world as "ground" (*Grund*) or "soil" (*Boden*) (Husserl 1970: §7), "fundament" (*Fundament*), or, indeed, as the "underground" or "subsoil" (*Untergrund*) for scientific inquiry (Husserl 1970: §9b, §29 and §34a, 124 [127]), the "unspoken ground of cognitive accomplishments" (Husserl 1970: §30), and "constant ground of validity, an ever available source of what is taken for granted" (Husserl 1970: §33). The two characteristics – ground and horizon – could be seen as in tension: openness versus groundedness. In what sense can the life-world function both as *horizon* (an indefinite and vaguely delineated limit) and as a *ground* (a self-evidence or validity that is incontrovertible, even apodictic)? As a horizon, the world appears not to be objectifiable at all, but to retreat as emptily co-intuited *behind* the directly presented objects of experience that are primarily intuited (for Husserl, in the first instance, primary physical things as perceived). On the other hand, a 'ground' normally is construed as something like a reason, something that gives the sense of legitimation, justification, entitlement, stability, security, a rational basis, a principle on the basis of which true assertions can be made (he speaks of seeking a truly apodictic "ground" like the Cartesian *cogito* (Husserl 1970: §30) and a "universal apodictic ground" (Husserl 1970: §7).[32] Husserl often invokes the metaphor of 'ground' and indeed phenomenology itself aims at "ultimate grounding" (*Letztbegründung*) – logic, for instance, can never be a secure science until it is grounded in the universal "life-world" (Husserl 1970: §36). But one should not attribute to Husserl a rigid sense of 'ground' in the form of a Cartesian, axiomatic, self-evident first principle from which evident truths are deducted. The concept of ground, like that of horizon, for Husserl, also has a certain relativity to the observer – for those on a ship, the ship is their ground, their ultimate reference point. In his *Intersubjectivity* volumes, where he discusses the notion of "home-world" (*Heimwelt*) versus "alien-world" (*Fremdwelt*), Husserl speaks of people having a sense of what is their natural home or place (esp. Husserl 1973b, c). For someone born on a ship, the ship with its rolling movement has the sense of home and ground. In this sense 'ground' has to be understood also as a kind of sustaining horizon rather than as the opposite of horizon. Husserl also understands 'ground' as possessing an intrinsic openness and fertility; it has a promising richness that invites further exploration (the work of art is a good example of an object that, as Heidegger points out, institutes horizons and even whole worlds). Thus Husserl writes:

> The ground of experience [*Erfahrungsboden*], opened up in its infinity, will then become the arable field [*Ackerfeld*] of a methodical working philosophy, with the self-evidence,

[32] Indeed, perhaps because of his dissatisfaction with Husserl's concept, Heidegger singles out the concept of "ground" (*Grund*) for explication in his paper submitted to Husserl's Seventieth Birthday Festschrift (Heidegger 1969).

> furthermore, that all conceivable philosophical and scientific problems of the past are to be posed and decided by starting from this ground [*Boden*]. (Husserl 1970: §27, 100 [104], translation modified)

The way to reconcile the concept of life-world as horizon with life-world as ground is precisely to think of grounding in a new sense – not as rational grounding in something like its original Leibnizian sense ('nothing is without a ground or reason') but as a constant ongoing contextualisation and re-contextualisation whereby meaning itself is secured through its horizonal connections with meanings lived through and established in the non-objectifiable world of living and acting. Husserl himself is quite clear that the kind of grounding provided by the life-world is different from logical or epistemic grounding. Indeed, it is literally a pre-logical ground of the logical. Thus he writes:

> There has never been a scientific inquiry into the way in which the life-world constantly functions as subsoil [*Untergrund*], into how its manifold prelogical validities act as grounds for the logical ones, for theoretical truths. And perhaps the scientific discipline which this life-world as such, in its universality, requires is a peculiar one, one which is precisely not objective and logical but which, as the ultimately grounding one, is not inferior but superior in value. (Husserl 1970: §34, 124 [127])

The life-world cannot therefore function as some kind of principle of *rational* grounding in the traditional philosophical sense. By its very nature, it cannot provide any kind of *objective* grounding at all; certainly not the kind of ultimate principle that traditional rationalism (e.g. Spinoza) sought. The peculiarity of the grounding of the life-world is that it provides an ultimately subjective, pre-logical, pre-rational, temporally dispersed, never fully actual grounding. It provides a kind of evidencing. The life-world itself is an always-available source of what is taken for granted (Husserl 1970: §33, 122 [124]), given in a "primal self-evidence" (Husserl 1970: 131). Indeed, the life-world is a "universe of original self-evidences" (Husserl 1970: §34d, 127 [130]), which itself provides the grounding for every conceivable type of evidencing. In this sense, the life-world is the ground of all "accomplishing life" (Husserl 1970: §34d). It is a world which provides the "constant ground of validity" and the continuing confirmation of evidence.

The Life-World as the Intersubjective, Communal We-World (*Wir-Welt*)

Husserl is also insistent that the world as the ultimate context and horizon of human experience cannot be conceived solipsistically as just *my* world, but must be thought of as an inherently communal world, a world "for others", a world potentially available "for everyone" (*für jedermann*) (Husserl 1970: 296 [343], 358 [369]). The life-world enables *communalisation*. Its manner of being given is that of being available 'for all'. In other words, the very idea of a world includes the idea that there are infinitely many different possible ways of experiencing it and an

open, undefined and hence infinite plurality of "co-subjects" (*Mitsubjekte*) who do or could so experience it (Husserl 1970: 164 [167], 184 [188]). The very idea of *world*, accordingly, has an *a priori universality*. Furthermore, this world is not disclosed to me alone but has a *communal* character:

> Obviously, this is true not only for me, the individual ego; rather we, in living together [*in Miteinanderleben*], have the world pregiven in this 'together', as the world valid as existing for us and to which we, together, belong, the world as world for all, pregiven with this ontic meaning [*Seinssinn*]. (Husserl 1970: §28, 109 [111])

Being given 'for all' (not just all present but all possible subjects) is part of the 'being-sense' or ontic meaning of the world. A world is what is in principle there for any subject whatsoever. A genuine Robinson Crusoe experience is *a priori* impossible, Husserl insists. The social world is a world of communication – a world shared between communicating subjects, a "communication community" (*Mitteilungsgemeinschaft*); a term that will later be taken up by Habermas.

Conclusion

Having examined the many dimensions of Husserl's rich and multifaceted conception of the life-world, it is time to draw some conclusions. The term certainly does have an empirical meaning in Husserl, who often uses it as a kind of shorthand for the whole world of spontaneous life in the natural attitude; and also, in the plural, for the historical worlds of particular cultures (Heidegger too talks of the life-worlds of the Ancient Greeks or of the early Christians). Following Alfred Schütz (although not exactly recognising his own intention), the term has become a sociological term to connote the world of everyday life. But the term also has a deeper, transcendental sense in Husserl. It identifies a formal structure of coherence that makes meaningful life possible. In this regard, life-world has, as Husserl says, an inescapably subjective character. There cannot be a purely objectivist description of the life-world as such, since life-world involves the human subject (and subjects) in their particular stances, attitudes and points of view. As a consequence of this essentially communal and intersubjective character, the world is never just an objectivity lying 'outside' us. It is precisely the world of our "interests", purposeful activities, strivings, "abilities" (*Vermögen*) and "habitualities" (*Habitualitäten*) (Husserl 1970: §36).[33] It is the world in which we 'live and move and have our being'; the world in which we act and suffer (*tun und leiden*), live and strive (*leben und streben*) – to invoke some of Husserl's own phrases. It is the world that pulsates according to our life interests (Husserl 1954: 500). It is, as Husserl himself stressed, the historical world as long as we understand this in terms of the *a priori* structures of historicity.

[33] On Husserl's conception of habit, see Moran 2011.

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Husserl's Hermeneutical Phenomenology of the Life-World as Culture Reconsidered

Nicolas de Warren

Abstract In this essay, I argue against Sebastian Luft's recent interpretation of the 'final and ultimate shape' of Husserl's thinking as a phenomenological philosophy of culture. I argue that this image of Husserl is narrow and untenable on the basis of Husserl's own thinking. I further suggest that this image of transcendental idealism is equally foreign to Kant, for whom transcendental philosophy (in all three critiques) does not centre on or 'envision' a critique of culture. Given the extent and degree of my reservations, I also attempt to track within the development of Luft's argument the sources for his misrepresentations and give special attention in this regard to his discussion of Gadamer. My overarching claim is that Luft's 'final and ultimate' Husserl reflects a post-Hegelian and specifically Neo-Kantian conception of enlightened philosophy. Luft effectively proposes to recover a hidden Neo-Kantian axis in Husserl's thinking or, in other words, another form of Neo-Kantianism in Husserlian phenomenology. I do not suggest that Luft considers Husserl as belonging to an established school of Neo-Kantian thought; but that in a more complex fashion, Husserlian phenomenology represents, for Luft, a departure from the grand narrative of Neo-Kantianism that at the same time stakes out an original position within the horizon of Neo-Kantianism in fulfilling one of its driving ambitions (and, to be sure, not shared by all forms of Neo-Kantianism): a philosophical critique of culture. Husserlian phenomenology would thus represent a kind of 'subculture' within Neo-Kantianism; and as with every subculture, it lives both from and against a dominant culture.

Keywords Husserl • Life-world • Transcendental phenomenology • Cassirer • Kant • Subjectivity

2015 will mark the completion of the Husserliana, the critical edition of Edmund Husserl's writings, launched after the rescue of his literary remains from Germany and the establishment of the Husserl Archives in Leuven under the stewardship of

N. de Warren (✉)
Husserl Archives, Centre for Phenomenology and Continental Philosophy, University of Leuven, Leuven, Belgium
e-mail: Nicolas.deWarren@hiw.kuleuven.be

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H.L. van Breda in 1938. Ever since the first volumes in 1950, the Husserliana has progressively expanded and complicated our view of the bracing magnitude of Husserl's phenomenological enterprise; and especially in the past decade, the appearance of hefty volumes on eidetics, the reduction, and the life-world has provided more than ample evidence for Sebastian Luft's declaration in *Subjectivity and Lifeworld in Transcendental Phenomenology* that we are approaching a "level at which the 'real' Husserl can be received" (Luft 2011: 6). It is only now that we are in a "position to really *begin* assessing Husserl's philosophy as a whole"; and Luft's book, a collection of previously published essays bound together into a "general portrait" of Husserl's thinking, is meant to be received as just such a beginning. *Subjectivity and Lifeworld in Transcendental Phenomenology* is as much about "the main thesis" of Husserl's thinking as it is a call to begin reassessing the Master in the wake of new and unexpected images of his thinking available in the Husserliana. As Luft stresses, Husserl's legacy is based on an "incongruity" between a "published" or "official" Husserl, routinely tagged with the labels of idealism, subjectivism, Cartesian, intellectualist, metaphysics of presence, and so on, and what Luft calls the "private" or "real" Husserl "as he was known only to himself". Now that the "entire mountain range" is coming into view, the real Husserl can finally and fully stand up to claim a rightful place as one of the "great achievements of Western philosophy" (Luft 2011: 7).

Two basic ideas animate Luft's portrait of Husserl's thinking, and both ideas represent the sharp end of Husserl's philosophical provocation that, according to Luft, "has escaped most readers of Husserl". The first is Husserl's "deep" commitment to the Enlightenment, which among other instances was unreservedly announced in *Philosophie als strenge Wissenschaft*; the second is Husserl's transcendental idealism in the form of his transcendental phenomenology as first systematically and yet incompletely presented in *Ideen* I. Husserl's commitment to the Enlightenment is evident from his insistence that philosophical thinking (*qua* phenomenology) must become a "rigorous science" – an incomprehensible proposition for the status quo of philosophy today – and the "steadfast belief that everything in principle can be understood". This ideal of philosophy as rational clarification is inseparable from the ambition of transcendental phenomenology and its "quest" to reveal through meticulous and "infinite" descriptive analysis the transcendental "apriori correlation" of consciousness and world, the subjective and the objective, or what Luft simply calls "the One structure".

If this were it, if both of these ideas – Enlightenment and transcendental idealism – were said to define the "real Husserl", one might reasonably wonder what in fact is here new with Luft's own portrait. One might be puzzled not only by the thought, 'is this *really* the real Husserl?' but more emphatically by the consideration: 'Isn't this how Husserl has always been understood, long before and without having to wait for over 40 volumes of the *Husserliana*?' One might rightly become suspicious that this very image of Husserl shaped the reception of Husserlian phenomenology ever since Heidegger; who clearly and critically formulated, and (in many senses of this term) *fixed*, this image of Husserl's thinking in his Marburg lecture courses during the 1920s. A long train of attempts to 'overcome' Husserlian phenomenology (Levinas, Trân Duc Thao, Merleau-Ponty, Derrida) has since repeatedly

targeted Husserl's commitment to the primacy of reason and his transcendental conception of phenomenology. As Levinas formulated in his first publication, a review of *Ideen* I in 1929, Husserl's thinking represents a soliloquy of light and reason (Levinas 1929).[1]

Luft's real provocation, however, resides elsewhere. For upon closer examination, Luft's dual stress on the centrality of the *a priori* correlation (or "One structure") and Husserl's Enlightenment ideal of rational clarification is centred on the claim that Husserl's transcendental phenomenology is a hermeneutic phenomenology of the life-world as a world of *culture*. As Luft announces his guiding insight: the "*final and ultimate* shape" of Husserl's thinking is a "hermeneutical phenomenology of the correlation a priori of the world as historical world, as a world of culture, and of subjectivity as intersubjectivity, connected in a history and a tradition" (Luft 2011: 27).[2] I take *this* claim to be Luft's original and, indeed, provocative thesis. On this view, Husserl's Enlightenment is based on the *transcendental* identification of the life-world with a world of culture. As Luft elaborates: philosophy, "in the form of a concrete analyzing phenomenological labor, is the critique of culture that Kant envisioned, that is, culture as rational through and through" (Luft 2011: 27).

In this essay, I shall argue that this interpretation of the 'final and ultimate shape' of Husserl is untenable on the basis of Husserl's own thinking. I shall further suggest that this image of transcendental idealism is equally foreign to Kant, for whom transcendental philosophy (in all three critiques) does *not* centre on or 'envision' a critique of culture.[3] Given the extent and degree of my reservations,

[1] Also see my discussion in de Warren 2013.

[2] Unless otherwise stated, emphasis is in original unless otherwise stated.

[3] Luft is correct to consider Kant as a paradigmatic figure of the Enlightenment. But Luft's own view of the Enlightenment represents a nineteenth-century – and *German* – embrace of the primacy of culture (as opposed to civilisation; i.e. nineteenth-century debates between *Kultur* and civilisation). If we look back to Kant's conception of the Enlightenment, we recognise a noticeable absence of the centrality of culture in the sense subsequently developed by the Baden School of Neo-Kantianism. Whereas Kant situates the notion of culture, as the cultivation of mankind's rational capacities, within his philosophy of *history*, Neo-Kantianism widens and deepens the concept of culture to the point of a *philosophical* identity between 'Philosophy of culture and transcendental Idealism' – the title of Windelband's influential 1910 essay (included in Windelband 1921). Windelband's statement, "History is the true Organon of philosophy" could *not* have been written by Kant, for whom Reason is the true Organon of philosophy. Moreover, Kant's Enlightenment is centred around a *political* conception of the world, or 'life-world', not a world of culture, but a cosmopolitan world in which rational agents can pursue the highest good, obey moral imperatives (autonomy) and recognise each other as ends in themselves (the Kingdom of Ends). The cultural identities and markers of individuals are secondary to rights and obligations. Luft represents the collapse of this Kantian political conception of Enlightenment with a cultural conception at the expense of the universality that would only seem possible through a political and ethical conception. This aspect of Kant's thinking does not receive the appropriate emphasis, even thought Luft does consider the relation between theoretical and practical reason in his chapter on Kant and Husserl. Husserl's own critique of Kantian ethics is, to be sure, complex. The point that bears emphasis is not so much Husserl's confrontation with Kantian ethics, but the lack of a

I shall also attempt to track within the development of Luft's argument the sources for his misrepresentations and give special attention in this regard to his discussion of Gadamer. My overarching claim is that Luft's 'final and ultimate' Husserl reflects a *post-Hegelian* and specifically *Neo-Kantian* conception of enlightened philosophy. Luft effectively proposes to recover a hidden Neo-Kantian axis in Husserl's thinking or, in other words, another form of Neo-Kantianism in Husserlian phenomenology. I am *not* suggesting that Luft considers Husserl as *belonging to* an established school of Neo-Kantian thought, but that in a more complex fashion, Husserlian phenomenology represents for Luft a departure from the grand narrative of Neo-Kantianism that at the same time stakes out an original position *within* the horizon of Neo-Kantianism in fulfilling one of its driving ambitions (and, to be sure, not shared by all forms of Neo-Kantianism): a philosophical critique of culture. Husserlian phenomenology would thus represent a kind of 'subculture' within Neo-Kantianism; and as with every subculture, it both lives from and against a dominant culture.

Husserl, a real Neo-Kantian: it is a tantalising proposition. One of the merits of Luft's thesis is that it calls attention to the development of Husserl's thinking within the diverse context of Neo-Kantianism – the least-studied movement of modern philosophy despite its pervasive influence and intellectual vitality. Luft's chapters on Natorp and Cassirer (as well as his other writings on Neo-Kantianism published elsewhere) represent important contributions to furthering the Neo-Kantian contextualisation of Husserlian phenomenology (e.g. Makkreel and Luft 2009). Luft's thesis is also bold in that it seeks to unite *today* (for it is clear from the first pages of his book that Luft seeks to present Husserlian phenomenology as a still-viable philosophical position) two positions that our times deem fundamentally incompatible: robust rationality (*a priori* structures, eidetic forms, transcendental idealism) *and* culture, history and intersubjectivity. These three themes have constituted a Holy Trinity in the sustained critique of rationality and Enlightenment ever since Herder; so there is indeed something unexpected about this proposed portrait of Husserl, should this indeed be the real Husserl.

Subjectivity and Lifeworld in Transcendental Phenomenology is organised into three parts. In Part I, Chapter One, Luft begins with a presentation of Husserl's critical thematisation of the natural attitude as the naive, or "natural", acceptance of the "existence of the world" (the general thesis of the natural attitude) and the formation of Husserl's signature method of reduction. In Chapter Two, Luft examines the aim of the phenomenological reduction in its manifold complexities and the different ways to the reduction.[4] Luft considers the three ways of the reduction (Cartesian, psychological, and life-world) and argues that the Cartesian way of the reduction, leading to the primacy of subjectivity, and the way of the reduction leading to "life-world ontology" represent two "two distinct" and

confrontation with Kant's *political* thought and the relationship between ethics (system of morality) and system of justice; as evident in Husserl's repeated emphasis on *culture* in his historical writings on Europe – such as the Kaizo articles.

[4] Luft has devoted a lengthy analysis of Husserl's reduction (s) in his Luft 2002.

"separate programs" of Husserl's thinking. Both ways exist in tension with the other and yet are said not to "cancel each other out": whereas the Cartesian way "pursues the path of scientific [. . .] foundationalism", the path of the life-world pursues "what can be called a hermeneutics of the world of everyday life" (Luft 2011: 80). In Chapter Three, Luft addresses the troublesome but critical question of the motivation behind the reduction and how the reduction "modifies" or "transforms" the natural attitude. In addition to illuminating references to Eugen Fink (who struggled mightily with these same problems) and the parallelism between psychology and phenomenology, Luft centres his discussion on the idea that the natural attitude (or "natural life") is something akin to a "surface layer" that obscures the hidden and deeper "all encompassing" process of world-constitution. Chapter Four looks more closely at Husserl's ontology of the life-world. As Luft does well to underscore, the theory of the life-world is inseparable from a transcendental theory of the genesis of history and the *telos* of rationality. Chapters Five and Six deal respectively with Husserl's conception of "transcendental person" in contrast with Heidegger's "anthropological" notion of *Dasein*; and Husserl's systematic conception of his thinking – the latter chapter representing a somewhat hodge-podge set of reflections on "dialectics, the absolute, and system" that also touches on the paradox of subjectivity. These six chapters paint a clear portrait of Husserl as a philosopher committed to the rational clarification of the "deep" transcendental structure of the life world (or "One structure") and constituting subjectivity; to the reactivation of the "hidden" teleology of history and reason; and to the idea of the transcendental person as "human being in its broadest, that is, intersubjective and genetic dimensions, as viewed from the standpoint of the transcendental theory of constitution" (Luft 2011: 140).

As announced in the title, Part II is the pivot for Luft's Neo-Kantian leveraging of Husserl's thinking: 'Husserl, Kant, and Neo-Kantianism: From Subjectivity to Lifeworld as a World of Culture'. In Chapter Seven, which I shall discuss more extensively below, Luft takes up the question "in what sense is Husserl's phenomenology a transcendental idealism" by way of a return back to Kant's original Copernican Revolution. In Chapter Eight, Luft investigates Natorp's "reconstructive" method of philosophical psychology. As Luft ably demonstrates, Natorp's critique of objectifying constructions of consciousness and his regressive-reconstructive method of analysis (progressing from objectified forms back to their genesis and origin) provided an important catalyst for the development of Husserl's own method of genetic phenomenology. But despite this affinity, Husserl faults Natorp for a lack of eidetics and hence a 'rigorous' method of philosophical analysis. In Chapter Nine, Cassirer enters the scene as a crucial figure in Luft's construction of the 'real Husserl'; for it is Cassirer who formulates the centrality of the problem of culture and, more importantly, the *intelligibility* of cultural forms with a sophistication and erudition previously unseen within Neo-Kantianism, in his masterly *Philosophy of Symbolic Forms*. Luft identifies in Cassirer's philosophy of symbolic forms a fully developed philosophy of culture, albeit one that lacks a transcendental foundation in constituting subjectivity. By contrast, Husserl's phenomenology of the life-world remains incompletely developed as a fully articulate

philosophy of culture; but it has discovered the "One structure" and the transcendental problem of constitution. A synthesis is therefore in order. In Luft's analogy, Cassirer and Husserl are both "mine dwellers [*sic*] who ground their way through the mountain, only happily to meet in the middle": a "full account of the life-world as a world of culture" (Luft 2011: 291). But whereas Cassirer can only offer a "phenomenology of objective spirit", we find in Husserl's "mature. . .analyses of transcendental subjectivity" a "phenomenology of *subjective* spirit" (Luft 2011: 290).[5] This transformation of Husserl's transcendental philosophy into a 'philosophy of culture' developed in these chapters remains incomplete; the confrontations between Husserl and the leading Neo-Kantian figures of Natorp and Cassirer are insufficient to draw forth what Luft calls an "intrinsic consequence" of his argumentation thus far: the *hermeneutic* dimension of Husserl's phenomenological enterprise.

Composed of two chapters, Part III, in which this "intrinsic consequence" is finally drawn, is disappointingly meagre. Its title, 'Toward a Husserlian Hermeneutics', may quietly signal a certain degree of argumentative coyness as it can be read as an implicit avowal of sparseness *and* as an intention to fulfil a promise. Nevertheless, one might have expected more from the final and ultimate part of Luft's book in which the 'Real Husserl' is meant to appear. In Chapter Eleven, Luft makes an exegetical claim regarding the influence of Husserl's notion of the life-world on Gadamer's thinking; as well as a systematic claim that Gadamer's hermeneutical philosophy fell under the sway of the "later Heidegger", with the consequence that we need to return to Husserl and his commitment to the

[5] Luft here uncritically adopts the *thrust* of Heidegger's basic critique of Cassirer in the famous Davos disputation of 1929 and already formulated in Heidegger's 1928 review of Volume II of *Philosophy of Symbolic Forms*. As Heidegger writes: "Instead of placing the interpretation of mythic Dasein in a central characteristic of the ontological constitution of this being, Cassirer begins with an analysis of the mythic consciousness of objects, its form of thought and intuition. To be sure, Cassirer clearly sees that such a form must be traced back to the mythic form of life as the spiritual original foundation (*Urschicht*) [. . .] Nevertheless, the express and systematic clarification of the origin of thought-form and intuition-form in the form of life is not carried out" (Heidegger 1976: 42). Puzzling, however, is Luft's ignorance of Cassirer's response to this very critique in Volume III of *Philosophy of Symbolic Forms*, with the notion of "symbolic pregnance" (*symbolische Prägnanz*) (cf. Cassirer 1955). Cassirer speaks explicitly of "symbolic pregnance" as an "ultimate foundation" that is more primordial than the synthetic activity of consciousness in Kant *and* Husserlian intentionality. Indeed, Cassirer objects to the *One* structure of Husserlian intentionality on account of its dualism between form and matter (at least in *Ideen* I). But even if we grant the later developments of Husserl's thinking, Cassirer's tripartite structure of symbolic form (expression, representation and meaning) still displaces the 'subject–object' correlation of intentionality. Moreover, Cassirer's metaphysical reflections on "original phenomenon" in his unfinished Volume IV and the "fact" of having a world in view, or the showing-up of the world, would also need to be discussed in this context. As Cassirer argues in this unfinished volume, "the phenomenon of the 'I', of the *monas*, of 'life' itself [is] a process, as movement – the 'stream of consciousness' which constantly flows and knows neither rest nor quiet" (Cassirer 1996: 128, 138). For a different account of the confrontation between Husserl and Cassirer, see Bernet (1994: 139–162), who argues that Cassirer is positioned *in-between* Husserl and Heidegger (but not that Cassirer and Husserl meet at some middle point).

Enlightenment in order to arrive at a hermeneutical conception of the life-world. As with his earlier critique of Cassirer in Chapter Ten, Luft believes that Gadamer's "account of effective history can be remedied by insisting, in a Husserlian vein, on the *subjectivity*" of effective history (to recall: Cassirer's phenomenology of objective spirit can be 'remedied' by Husserl's phenomenology of subjective spirit).[6] In Chapter Twelve, Husserl's hermeneutical phenomenology as a philosophy of culture is finally unveiled: this chapter, self-avowedly, is not meant to say "anything substantially new" but "just attempts to sketch in broad strokes what has been argued in different ways over the course of this work"; namely, the view that Husserl's thinking "fulfills the promised task of a *transcendental philosophy of culture*" (Luft 2011: 352, emphasis in original). Looking back over the course of the book as a whole, we can discern the trajectory that has brought us to this image of the 'real Husserl': after a review of some defining features of Husserl's thinking, the passage through Neo-Kantianism is meant to initiate the turn to life-world as a world of culture, as well as position Husserl's own hermeneutics of life-world as world of culture between Cassirer and Gadamer. As Luft sums up his guiding conviction: "The deepest and most encompassing comprehension of the world, which amounts to justifying it and ourselves in it, thus stems from Husserl's core insight: the correlation of subjectivity and lifeworld (the *One structure*)" (Luft 2011: 356).

At the focal centre of Husserl's transcendental phenomenology, Luft locates what he calls the "One structure" as the "thoroughgoing apriori correlation of subjective and objective [. . .] where in each case the absolute balance between both needs to be maintained" (Luft 2011: 15). Luft identifies the subjective dimension, or "subjectivity", of the One structure with "life" or "human being" and the objective dimension, or "noematic correlate", with the life-world. This *a priori* correlation of transcendental subjectivity/"human being" and life-world is discovered as a transcendental theme of reflection through the phenomenological method of reduction. In Luft's view, however, the reduction receives a substantial hermeneutical inflection. In his characterisation, transcendental reflection progresses through three stages: bringing attention to the pre-understanding of the natural attitude; raising this pre-understanding to an object of transcendental reflection, thereby raising the issue of its justification; and reconstructing or reactivating the origin and genesis of the transcendental pre-understanding of the life-world (Luft 2011: 339). Luft's main claim is thus that transcendental phenomenology

[6] As noted above, Cassirer himself rejects this *insistence* on subjectivity. Another way to formulate the crucial difference between Husserl and Cassirer on the question (and direction) of foundations is to highlight Cassirer's statement in the preface to *Philosophy of Symbolic Forms* that he appropriates the concept of 'phenomenology' for his own phenomenology of knowing from *Hegel*. That is: the problem of foundation is handled in *The Philosophy of Symbolic Forms* through the problem of *totality*, not 'subjectivity', albeit in a modified form. If, for Hegel, *das Wahre ist das Ganze*, for Cassirer, who cites Hegel here in the first volume of *The Philosophy of Symbolic Forms*, *die Wahrheit ist das 'Ganze'*. On Cassirer's deliberate use of 'die Wahrheit' instead of Hegel's 'das Wahre', see the illuminating discussion in Verene 2011: 45–46.

ultimately discovers the pre-understanding of the life-world as an intersubjective and historical world of culture.

This identification of the life-world with a world of culture critically depends on two propositions: that the life-world is the "final and ultimate" noematic correlate of the "One structure"; and that the life-world is a world of culture. Whereas the first proposition is more problematic than Luft recognises, the second proposition is untenable, especially given Luft's own understanding of culture. Let me begin with the first proposition. I understand the question of whether the life-world can be considered a "noematic correlate", and hence whether the *a priori* correlation is transcendentally robust enough to fully accommodate the *transcendental* problem of the life-world, as one of the fundamental challenges that Husserl begins to pose for his own thinking in the 1930s. As with every problem of genius, it is a problem whose meaning and significance escaped Husserl's own grasp without thereby, as some have all-too-hopefully proposed, bringing the reach of his phenomenological thinking to an end. Even though Luft would appear to grapple with the difficulties inherent to the reduction to the life-world, the *content* of his argumentation still evinces a lack of critical awareness of the true complexity of what is methodologically required to demonstrate *how* the life-world becomes an object of transcendental reflection. Luft, in fact, takes for granted the possibility of objectifying the life-world in transcendental reflection. The source of this assumption can be precisely located in Luft's thinking in the form of his repeated identification of the life-world with the kinds of prejudices that implicitly shape and structure our everyday understandings and actions in the natural attitude. As Luft writes in his chapter on the reduction (Chapter Two): "This 'lifeworld reduction' reduces the world *before* idealizations and reveals the sphere of basic life as the fundamental 'presupposition' of any activity" (Luft 2011: 72). But as I shall argue in some detail, Luft's identification of the life-world as a "sphere" underlying the natural attitude actually masks the true depth and centre of the problem *posed* by the question of life-world *to* transcendental reflection.

The question of whether the life-world can be at all considered a noematic correlate, and hence the sense in which the life-world resists transcendental reflection, is arguably one of *the* defining features of the life-world itself. As Husserl begins to recognise in the 1930s (if not with the force insisted upon by others such as Heidegger and Merleau-Ponty), the life-world cannot be naively thought as a kind of 'object' or even as a 'world' in the familiar sense in which we understand what it is to have something in view or be in a world. This uneasy and yet philosophically productive recognition of the opacity of the life-world for transcendental reflection (in other words: to think the opacity of the life-world without dispelling it through reflection) develops in tandem with a pronounced attentiveness to an original formulation of the problem of many worlds. This is not to discount Husserl's ambition to develop an eidetics of the life-world despite the opacity (or precisely because of it) of the life-world as actually experienced, or lived, for transcendental reflection. In other words, an eidetic science of the life-world targets the "essences" of the life-world on the basis of the actual, or experienced, "subject-matter", as it were, of the life-world (as Husserl develops in *Husserliana*

XXXIX).[7] Husserl's *Wissenschaft von der Lebenswelt* is motivated by two essential problems: firstly, in what phenomenological sense can we speak of an 'experience' of the life-world, if the life-world, by definition, remains the pre-supposition for any possible experience? And secondly, in what sense are particular worlds situated within the life-world, such that the experience of any particular world is at the same time, but not the same as, an 'experience' of the life-world? (see Marx 1970: 62 ff).[8] These two problems are inseparable from each other. More strongly stated, the questionability of whether the life-world is a 'noematic correlate' of transcendental subjectivity (a question that animated the dispute between Husserl and Heidegger) is inseparable from recognising the life-world as distinct from the multiplicity of *Sonderwelten*.

In my view, Luft elides the complexity of *both* problems: he routinely invokes an 'experience' of the life-world in ways that should make us suspicious of whether he in fact can only mean an experience of a particular world; and he fails to distinguish adequately between 'particular worlds' and the 'life-world', as Husserl himself repeatedly undertakes in manuscripts now available in *Husserliana XXIX*. Husserl defines a particular world as a scope of possible experience bounded by a particular goal or interest; including, in the instance of science and philosophy, the interest of knowledge. The life-world, by contrast, cannot be subsumed to a particular interest; it is therefore not a kind of world towards which one has an attitude. There is a revealing moment in Luft's study when he momentarily brushes against what would *appear* to be a distinction between 'particular worlds' and 'life-world'. In his chapter on Gadamer and Husserl, Luft observes: "The world in its plurality presents always already a fusion of these pluralities [*multitude of possible horizons*] into a complex world-view." To which he adds: "the life-world is already 'constituted' as a sphere of plurality of which a single, subjective standpoint is but an abstraction".[9] Yet, it is evident from his choice of terms, *as well as* his description, that Luft operates here with a distinction between 'plurality of worlds' and an encompassing 'complex world view' – and thus *not* with the Husserlian distinction between 'particular worlds' and 'life-world'. Husserl's distinction is meant to capture a much more profound and different kind of difference: the life-world is neither a 'complex world view' composed of multitudinous fusions of horizons *nor* a

[7] My gratitude to Andrea Staiti for helping me see this point more clearly.

[8] Also see my own effort to address these issues in de Warren 2008: 23–44.

[9] This passage would require more careful analysis, but as far as I can see, Luft does not establish any clear distinction between Gadamer and Husserl on this issue of the life-world. On the one hand, he intends to draw a contrast between Husserl's notion of the life-world as 'horizon of all horizons' with Gadamer's 'life-world as sphere of plurality', but on the other hand, when Luft speaks of the life-world as "horizon that is essentially plural" he actually identifies Gadamer's notion with Husserl's or, at least, fails to clearly distinguish between both, as it would seem was his original intention. This is further confirmed when Luft states: "Husserl's phenomenology offers a rich account of the lifeworld in the plurality of its meaningful horizons that correspond to a plurality of subjective interactions with, and comportments toward (through the concept of 'attitudes'), this lifeworld" (Luft 2011: 322).

particular horizon that could enter into fusion with other horizons. Husserl's distinction between 'particular worlds' and 'life-world' is thus able to formulate the specific methodological demand made by the life-world problematic to transcendental reflection; only with this Husserlian distinction can the problem of the forgetting of the life-world be properly described. Luft himself unwittingly admits his own inability to recognise the problem of forgetting of the life-world (and hence the true meaning of the life-world as a presupposition) when he writes: "Strictly speaking, one cannot call this [*the covering-over of the life-world by the natural attitude and idealisations*] forgetfulness, since it was never thematized in the first place" (Luft 2011: 72). But this impossibility is, strictly speaking, only meaningful with a conception of 'presupposition' and 'pre-givenness' *within* the natural attitude; where indeed forgetfulness is not, as is the case with the life-world, original.[10] Alphonse de Waehlens was on the right track when he spoke of a "*fonction ontologique d'inconscience*" at the centre of the natural attitude (see de Waehlens 1959). With the development of the life-world problematic, Husserl moves in the direction of discovering an 'unconscious' of the world, as it were, and thus not an unconscious *of* subjectivity that becomes clarified and brought (back) to consciousness in reflection.

In speaking about the life-world and its relation to the plurality of worlds, Luft characterises particular worlds as "subjective interactions", "comportments" and "attitudes" "*towards*" the life-world (Luft 2011: 320). But this clearly implies an image of the life-world as an 'object' or a 'pole' towards which attitudes within any particular world are *also* aligned, and thus an image of the life-world as the 'One' world onto which the plurality of worlds are perspectives. A particular attitude within a particular world is, however, not at the same time a defined comportment or posture towards the life-world, *even though* it is at the same time situated in the life-world. Every experience within a particular world is also an experience of the life-world – but in what sense? This question cannot find a clear formulation as a question as long as one fails to distinguish between the 'experience' of the life-world and 'experience' of particular worlds. The sense in which the life-world is a presupposition of the natural attitude and its plurality of worlds, and thus, the sense in which the life-world is a foundation, cannot be understood along traditional notions of "'implicit' or 'tacit' knowledge" and the stock metaphors of 'darkness' and 'sleep'. Central to Husserl's distinction between 'particular worlds' and 'life-world' is the thought that we exist *at the same time* in a plurality of worlds while *at the same* existing in the life-world, but that the meaning of 'at the same' *is not the same* in each case. I exist *across* different 'particular worlds' (I am a professor, I am a father, I am an ardent football fan of Oud-Heverlee Leuven) and am always situated within these worlds in a manner that is at once thematic and unthematic.

[10] I have also argued elsewhere that forgetfulness is an original accomplishment of retentionality within Husserl's analysis of time-consciousness. See de Warren 2009. Husserl himself often uses the expressions "*vergessenes Sinnesfundament*" and "*Verborgenheit*" as characterisations for the life-world in both the *Crisis* and the supplementary manuscripts in *Husserliana* XXIX.

Within each particular world, the transition from an unthematic experience to a thematic reflection occurs through a complex interplay of solicited reflection and seized-upon motivations. The complicated question resides with how the multiplicity of particular worlds is in turn situated within a life-world that remains taken-for-granted in a manner that *cannot* be understood in any comparable sense with the meaning of the contrast 'unthematic' and 'thematic' within particular worlds. The sense in which the life-world is taken for granted is different from the ordinary sense in which things are taken for granted within every particular world. Of the many problems implicated with this basic issue, undoubtedly one of the more troublesome, is the *motivation for the transcendental reduction itself* – a problem with which Husserl wrestled at considerable length in manuscripts available in *Husserliana* XXIX. If the life-world is not organised around a particular interest, practical or theoretical, the transcendental reduction must be *unmotivated* and *indifferent*: unmotivated since it cannot be induced within a particular world and its network of solicitations; indifferent since the transcendental reduction demands indifference to every possible interest (of any particular world). The paradox here, of course, is that the motivation for the reduction to the life-world cannot be a worldly motivation, and yet still needs to be a motivation that speaks from the world. Not untypical for Husserl, this problem taxes but does not debilitate the resources of his transcendental thinking; it invokes the force of a question that is neither a shock from beyond the world (as is arguably the case for Heidegger's question of being in *Sein und Zeit*) nor a pure, immanent act of willing imposed on the world (as Husserl postulated in *Ideen* I).

As if the magnitude of the problems just presented were not enough (but in keeping with the spirit of Luft's own metaphor, we need to gauge the full height and breadth of the "entire mountain range" before knowing how to climb it and where best to start), the transcendental opacity of the life-world challenges Husserl's conception of transcendental subjectivity and the problem of constitution. An appeal to the intrinsically intersubjective constitution of transcendental subjectivity, as Luft repeats in his study, is not sufficient as long as the thorny problem of the compossibility of monads and worlds is not tackled directly; this remains a conspicuous lacuna in interpretations of Husserl's thinking. Moreover, it remains an open question whether the life-world is constituted *by* transcendental subjectivity (or 'life') or whether the life-world shadows transcendental constitution. At times, Luft speaks of a "dependency" relationship between both poles of the "ONE structure" and their "balance"; at other times, Luft speaks of the constitutional foundation of the "One structure" in the activities of transcendental subjectivity, and thus, in this regard, weakens considerably any 'co-dependency' between both poles; yet at other times, especially in the culminating Chapter Twelve, Luft speaks of the world as "a product of human creation". Is the claim of Husserl's transcendental idealism and its guiding insight into the *a priori* correlation: (a) that transcendental subjectivity does not constitute the world absolutely since there is a 'dependency' relationship between both poles; (b) that transcendental subjectivity does constitute the world absolutely, since, ultimately, the transcendental problem is predicated on the guiding thought that "every phenomenon" must be related back

to "constituting subjectivity" (in other words: the world is constituted, not constituting); or (c) that the world is the "product of a *human* creation" – which I take to represent a *stronger and indeed different* claim than the idea of constitution in (a), unless Luft understands 'product' and 'creation' as synonymous with 'constitution' (but they are not). Will the 'Real Husserl' please stand up?

Even if Luft could stabilise this volatility inherent to his own understanding, it would still not address what I consider an even more intractable issue; one which, once again, conspires with the claim of life-world as world of culture. Is transcendental subjectivity *human*? Is the life-world, as Luft maintains, a *human creation*? Luft is clearly committed to a humanist notion of transcendental subjectivity: "only a philosophy in the Husserlian sense explicated is *true existentialism, true Lebensphilosophie*" (Luft 2011: 353).[11] In fact, Luft identifies this humanism of transcendental subjectivity as the defining feature of Kant's Copernican Revolution and Enlightenment – I shall return to this problematic identification in my discussion of Kant below.

Despite the weight given by Luft to the main thesis of his book – that the life-world is a world of culture – there's surprisingly little in his book about what he means by culture. We are told that human beings are cultural creatures; that culture is intersubjective; that culture possesses an intrinsic historical dimension; that there exists a culture imperative or "Ought as the ideal of how the world should be"; and most revealingly, we are told that culture is "safe haven and our home", a space of "fitting in". For the sake of achieving some clarity as to what Luft means by culture and its status within his thinking, let me assume for a moment that his two claims that I have contested above – that life-world is the noematic correlate, and that life-world is primarily a world of culture – are sound. For perhaps Luft's strategy of argument hinges on accepting these two assumptions for the sake of arriving at a desirable conception of culture that we might not otherwise have been able to reach philosophically. Perhaps what is important for Luft is not getting Husserl right, but getting Husserl to get right a certain conception of culture.

But here is where *the real* problems begin. In a rare statement about what Luft actually means by culture, he writes: "Culture, then, is the safe haven and our home, and *nothing could be further* from living an enlightened life than dwelling and feeling at home in the *niches* of subcultures, which *deliberately depart* from the 'mainstream'. Subcultures, which consciously depart from the 'grand discourse' of Culture, are the *enemy* of culture" (Luft 2011: 356, emphasis added). It is difficult to know where to begin with this statement, except with an initial reaction that the price of Enlightenment (if this, indeed, is an Enlightened conception of culture) has always been *blood*. Such a reaction is not dampened by Luft's supporting claim that a "human being only *becomes* a human being by actively partaking and participating in the projects of culture" (Luft 2011: 355, emphasis in original). The consequence is clear: those who do not "actively partake and participate in the grand

[11] But can we accept this identification (or equivocation) of "true existentialism" with "true *Lebensphilosophie*"? For a critical reflection on such an equivalence, see Patočka 2011.

discourse of Culture" (recall the quote above) are not (yet) human. The presence of the term 'enemy' raises the suspicion that Luft's notion of culture is infected by a politics of culture and a *constitutive* distinction between 'friend' and 'enemy'. Culture is indeed always particular. I'll not dwell on the glaring question of what to make of Hasidic Jews, Gypsies, and punks – subcultures that 'depart' from the 'grand discourse' of 'mainstream' Culture – in this harsh and demanding light of Culture. Let me rather sound another alarm bell with respect to this ringing endorsement of *Kultur*, from a more rigorously phenomenological angle. 'Fitting-in', 'safe haven', 'mainstream' and the claim that 'nothing could be further from living an enlightened life than dwelling and feeling at home' can be seen as diametrically opposed to the *philosophical force* of Husserl's phenomenological thinking and its method of reduction. As argued by Jan Patočka, the phenomenological reduction can be understood as instituting a 'break' or 'shattering' of belonging to a *human-made* world of culture. This rupture with the world as a home of our own tailoring is the experience and openness of philosophical wonder itself. Even if we do not follow Patočka's own philosophical project, the point is nonetheless crucial: Patočka recognises in the phenomenological suspension of the natural attitude a political and 'spiritual' act of philosophical liberation, the meaning of which reaches back to Socrates, that enemy of the 'grand discourse' of Culture, whose ambiguous ontological identity and deliberate departure from the 'mainstream' by leading the life of questioning exacted an ultimate price. If there is any *living* legacy of Husserl's thinking, it may very well reside in this singular insight into the force of transcendental estrangement.

The critique of prejudices is a central feature of the Enlightenment and it finds a powerful philosophical expression in the twentieth century with Gadamer's hermeneutical thinking. As Gadamer develops in *Truth and Method*, hermeneutical understanding is an event of interpretative confrontation in which framing and unspoken prejudices are exposed and challenged. On the one hand, there is no understanding without prejudice and thus outside a specific historical tradition, linguistic community, and form of life. On the other hand, *wirkungsgeschichtliches Bewusstein* (a term painfully translated into English as 'effective historical consciousness') involves a critical transformation of prejudices. As noted earlier, Luft's hermeneutical inflection of Husserlian phenomenology follows closely Gadamer's method of hermeneutical understanding; the reduction receives an explicitly hermeneutical form as a method for the identification and exposition of prejudices. As Luft remarks: "Gadamer overcomes a problem in Husserl's method that Husserl never answered satisfactorily. Husserl's transcendental turn is informed by methodological consideration that in my normal life I am not aware of my subjective activities as constitutive of world [*sic*]". The 'headway' made by Gadamer with respect to a "description of the life-world" transforms and sharpens Husserl's problem of "how can the natural attitude be neutralized and questioned" into the problem "how is it possible in the first place to make implicit *prejudices* explicit?" (Luft 2011: 317). For Gadamer, hermeneutical understanding progresses through confrontations with horizons of understanding other than our own, through which our own horizon of understanding becomes challenged and rendered into an object

of critical self-reflection. In this manner, we become estranged from our own assumptions without thereby accessing a 'truth' foreign to ourselves; truth occurs in the 'fusion' of horizons (a term that Husserl himself frequently employs in his analysis of passive synthesis, albeit with a different meaning). This 'fusion' of horizons is not, as Luft points out, a 'grand synthesis' but a re-situating of our own standpoint in reference to the Other and *her* heritage, language, and prejudices.[12]

Luft thus insists that Gadamer recognises more clearly the life-world as a historical and intersubjective structure of interpretation. As Luft stresses, the Husserlian legacy in Gadamer's thinking resides with the notion that "our own horizon only *forms* itself in the first place through constant interaction and fusion with other horizons" (Luft 2011: 323). Yet, while Luft reads Gadamer as making significant 'headway' in further developing Husserl's conception of the life-world, he identifies a heavy price for this departure from Husserl's 'paradigm' as registered in the central Gadamerian notion of 'effective history'. According to Luft, the hermeneutical movement of 'effective history' is "impersonal". As Gadamer writes: "understanding is not to be conceived as so much like an activity of subjectivity but as moving into an event of transmission (*Überlieferung*) in which present and past are constantly mediated" (cited in Luft 2011: 325). Luft here objects that Gadamer fails to answer the question: *who* comes to an (self)-understanding? Part of the concern for Luft is that the historical tradition for Gadamer has a normative effect most clearly exemplified with a literary classic. A historical classic is received with a normative force that cannot be entirely explicated: one cannot provide reasons for the classical status of *Faust*. Yet, Luft contends that reasons can be given for the institution of a classic work; to give such an account is to give an account of "activities of subjects that did certain things in the past" (Luft 2011: 327). I'm not sure how far such a vague description of what it is 'to give reasons' gets us with the complex question of how historical classics, or masterpieces, are historically constituted; but suffice it to say that Luft believes that in principle such an account could and must be provided. More revealingly for a clearer understanding of Luft's critique of Gadamer is the charged example of racism invoked by Luft himself. On Luft's view, it does no good to believe that a rational account cannot be given for racism. On the contrary, racism is a tissue of "judgments" and "reasons" that are problematically "subjective all the way down". Luft considers that there are "reasons" for racism (for why a person holds racist

[12] In this context of discussing Gadamer's development of Husserl's 'paradigm', Luft makes the curious comment that "Husserl never really considered possible this switch from one attitude to another other than through an unmotivated leap". But this is simply not the case, as Husserl devoted a significant amount of manuscripts to this issue of switching from one horizon to another (in Husserl's language: from one particular world to another) as well as the motivation for the suspension of all possible particular worlds. It is, furthermore, unclear why Luft considers that "in Husserl's scenario there can be no fusion; rather, there would occur a violent clash of horizons" (Luft 2011: 321). Husserl is not Sartre, and as Husserl's own inventive use of the terms *Paarung* and *Deckung* from his famous analysis in the fifth *Cartesian Meditation* and the entire problem of empathy suggests, horizons are intersubjectively, constantly in the play of 'fusion'.

beliefs) that we can come to understand and thus confront. As he writes: "They might have been monsters, but *human* monsters that *therefore* can be understood" (Luft 2011: 328).

As with the use of the term 'enemy' in a quote earlier cited, I'll not dwell on this problematic use of the term 'monster' and the way in which the invocation of this term masks a degree of complexity in both the having and the confronting of prejudices like racism. What is clearly missed by Luft is the problem that both Sartre and Fanon identified as the phenomenological core of racism: what if the kind of prejudice that constitutes racism entails an immunisation of the self from any responsiveness to reasons other than one's (self-serving) own? Much as with Gadamer, Luft places too much faith in the act of hermeneutic interpretation itself. As he writes: "One must at all times attempt to reconstruct the subjective viewpoints that informed people's actions. Only this is Enlightenment: to bring light to dark, murky regions of the human soul that make atrocities possible" (Luft 2011: 329). Not only does this ignore significant questions regarding the inscrutability of evil and, as Habermas charged in his famous debate with Gadamer, the systematic distortion of understanding *inherent* to tradition and historical authority; but this enlightened view seems entirely unable to understand cases in which 'understanding the Other' further enhances the paradox of the torturer as both 'monster' and 'saviour', as François Bizot explores in his remarkable memoir, *Le silence du bourreau* (Bizot 2011).

Although Luft endorses Gadamer's hermeneutical formulation of the life-world as the web of implicit assumptions and 'pre-understandings' that are challenged in understanding, he nonetheless worries that the so-called 'a-subjective' dimension of Gadamer's effective history "winds up as a fatalism and irrationalism with respect to the events in history". As he stresses: "In conclusion, one has to insist that this effective-historical consciousness is decidedly a *consciousness*". In response to this purported Gadamerian bifurcation of 'history' and 'consciousness', Luft advocates a return to Husserl's notion of transcendental subjectivity: "it is not anonymous history of being but a history of human *agents* that always interact in the way of mutual discussion, disagreement, agreement" (Luft 2011: 329). This charge against Gadamer is deeply puzzling for at least two reasons, especially if one understands *Truth and Method* as a sustained critique of Heidegger's "anonymous history of being". A first problem with Luft's contention is that it draws *too sharp* a distinction between 'impersonal' and 'subjective' in the context of Gadamer's hermeneutics. I assume that with this distinction, based on the examples used by Luft, 'subjective' is equivalent with 'first person point of view' (what a subject can articulate about herself). But if this is the case, then contrary to Luft's view, Gadamer does *not* efface the subjective dimension of consciousness from his conception of hermeneutical understanding; it is not, as Luft wants us to think, the blind force of history that is 'effective' or 'actualises itself' through 'effective historical consciousness'. What Luft misses is the critical notion of 'the medial' in *Truth and Method* that Gadamer appropriates from Heidegger and his reading of *phronesis*. 'Effective-historical consciousness' and the fusion of horizons is neither 'active' nor 'passive', but 'medial' as an event of transformative understanding that is *neither* the sole

accomplishment of subjectivity (the activity of agency) *nor* just the passive reception of historical tradition (the inherited authority of the classic).[13]

As a second problem, I suspect that the 'medial' meaning of 'event' ('effective') in Gadamer's thinking eluded Luft, due to his less-than-sufficient attention to Gadamer's conception of language. To have a language, for Gadamer, just is to be in a world. The world, or 'life-world', is not constituted by subjectivity, but on the other hand, language does not speak through subjectivity – the speaking subject is not the subject of a historical ventriloquism such that it bespeaks a language it does not truly speak. The world of language encompasses subjectivity as a web of horizons situating speaking and acting agents, as the *Zwischenreich* of hermeneutical encounters and 'fusions' of understandings. As Gadamer remarks: "Historical worlds in the course of history have differed from each other and from today. At the same time, however, the world is *always a human, and this means a linguistically created world* which is presented in whatever heritage it may be" (Gadamer 2004: 423, emphasis added). It is a human world because the fusion of horizons and effective historical *consciousness* is transformative and self-revealing of subjectivity: the subject becomes herself transformed, not blindly and mechanically, as if shot through by an electrical impulse or charge, but because the subject *opens herself*. That is why, for Gadamer: "To have a world one must be able to hold open a space before him in which the world can open up to him as it is" (Gadamer 2004: 419). Note the revealing doubling of 'openness' in this statement: the subject must open herself in order for to world to itself become open.

Transcendental idealism is the defining ambition of Husserl's phenomenological thinking in its 'quest' to reveal the 'One structure' of the *a priori* correlation of subjectivity, or 'life', and the life-world. This commitment to transcendental idealism expresses Husserl's commitment to the Enlightenment. This connection between transcendental idealism, as a philosophy of the life-world and the ideal of the Enlightenment defines the axis of Luft's construal of the 'main thesis' of Husserl's thinking. It is therefore not surprising that Luft confronts the question 'in what sense is Husserl's phenomenology a transcendental idealism?' in the middle of his book (Chapter Seven), by turning back to Kant. Luft at first considers the identification of Husserlian phenomenology with Kant's transcendental idealism "curious" given Husserl's severe critique of Kant's distinction between appearances and things in themselves. Luft contends that Husserl's version of transcendental idealism is based on the idea "that all being receives its meaning in meaning-bestowing acts of transcendental subjectivity" (Luft 2011: 186). And yet, Luft proposes to rescue Kant (to a certain degree) from Husserl's critical judgment, by arguing that Husserl in fact misunderstood Kant. Luft's rehabilitation of Kant is meant to provide a "deeper insight into a genuine *phenomenological* sense of transcendental idealism that is not so far from Kant's own, though with some

[13] Luft's worry that Gadamer's "effective-historical consciousness takes on the role of the über-subject in history" mirrors his worry with regard to Cassirer's "phenomenology of objective spirit" (Luft 2011: 329).

significant advances over Kant". In fact, Luft advances a more forceful claim: his reconstructed version of Kant provides "the *only* way to understand the mature Husserl's transcendental standpoint" (Luft 2011: 187, emphasis in original). Kant's "original idea was to introduce a perspective on our experiencing; this is the first and most basic sense of transcendental idealism". But whereas Kant remains trapped in an "anthropocentric model of cognition" and a "scientific notion of validity", Husserl undermines the two-stem doctrine, expands the notion of subjectivity to "consciousness as such", and makes a rigorous science of subjectivity (Luft 2011: 201). The consequence is that Husserl defines a "new sense of transcendental philosophy".

Luft considers Kant's Copernican Revolution, and hence the key insight of transcendental idealism, as hinging on the transition from a "theocentric" to an "anthropocentric model of cognition".[14] As Luft writes:

> What is the theocentric model? Its claim is that we *can* (ideally, once we have attained a Godlike perspective) have direct access to things, that is, to things as they really are. The human standpoint, from which we experience things, is irrelevant with respect to the cognition of things. We have direct access to things, and the way we experience them is how they really are. In other words, the *perspective* on things does not count. We see the world as any agent – God, humans, creatures from Mars – from its standpoint would cognize the world [*sic*]. The Kantian shift is thus to take *this perspective* seriously, more precisely, to see it as constitutive for the experience of things [. . .] a standpoint on something has a certain perspective. What is seen shows a certain aspect: from a perspective objects show themselves as *appearances*. This is what the move to an anthropocentric model of cognition is about: it is a consideration of the specific human standpoint on things, as opposed to a view that the standpoint on things does not matter. (Luft 2011: 189)

I have reproduced this passage at length in order to assure myself that I am not mistaken in my presentation of Luft's basic claim regarding the philosophical definition or innovation of transcendental idealism, which, for him, is equally characteristic of Kant and Husserl.

The problems with this proposed conception of Kant's transcendental idealism are considerable. In mounting his reading of Kant's Copernican Revolution, Luft places great weight on Henry Allison's 'two-aspect' interpretation of the Kantian distinction between appearances and things in themselves. But Luft's appropriation of Allison's view introduces a significant distortion. Allison fashioned his reading as a corrective interpretation against a prevailing reading of Kant in Anglo-Saxon (but not only) interpretations, for which one can still find representatives (e.g. Paul Guyer). For Allison, what is important about his 'two-aspect theory' is that it

[14] It is puzzling how one could advance this reading of Kant's revolution in light of Cassirer's argument that Kant's revolution in the way of thinking (*Denkart*) consists in his discovery of a pure functional notion of the concept, as Cassirer argues in *Substance and Function* (1910) and further develops in *The Philosophy of Symbolic Forms*. Following Hermann Cohen, for Cassirer, transcendental idealism does not depend on a claim about subjectivity as it does on a claim about *method* and concept (i.e. transcendental method of analysis; concept as function of pure formation of meaning) in light of which our understanding of subjectivity becomes transformed.

endorses a non-phenomenalist understanding of 'representation' in Kant's thinking: transcendental idealism is not committed to a form of phenomenalism. In Luft's account, however, the notion of *perspective* displaces the term 'representation' in Kant's thinking (the word 'perspective' is stressed no less than five times in five of its consecutive appearances (Luft 2011: 189–190)). But with this Luftian transformation of Kantian representation into perspective, a non-phenomenalist conception of appearances is undermined. This subversion of Kant's intended meaning, itself critical for a proper conception of transcendental idealism, through the switch to a vocabulary and notion of perspective, can best be seen if one briefly recalls the historical development of Kant's view during the silent decade of the 1770s. In his 1770 dissertation, Kant construed the distinction between appearances and things in themselves in terms of two distinct kinds of objects: mental representations and mind-independent objects. But as early as an often-quoted letter to Herz in 1772, Kant begins to move away from this two-world theory and phenomenalist account of appearances as representation. On his *pre-critical* view, objects are mind-independent and representations (appearances) are phenomenal; our knowledge does not come into contact with things themselves. But in the critical period as well as in *Critique of Pure Reason*, as Kant writes, "the object is to be taken in a twofold sense, namely, as appearance and as thing in itself"; moreover – and this is the critical qualification or definition – things in themselves are "those same objects [as appearances] taken in another sense" (Kant 1996: Bxxvii). As he further explains, appearance:

> always has two sides, the one by which the object is viewed in and by itself (without regard to the mode of intuiting it – its nature therefore remaining always problematic), the other by which the *form of the intuition* of this object is taken into account. This *form* is not to be looked for in the object itself, but in the subject to which the object appears; nevertheless, it belongs *really and necessarily to the appearance of this object*. (Kant 1996: A38/B55)

The critical point for Kant (and which I stress in the citation) is that the same object can be viewed either through the form of its representation (for us: the form to which we are bound necessarily) or in abstraction from this form. Things in themselves are a consideration of the object abstracted from the necessary form of its representation for us (this is once again stressed in the General Observations at the conclusion of Transcendental Aesthetics). This is the crucial claim for the ideality of forms of space and time that is the central argument of the transcendental aesthetic and its direct proof (as Kant called it) for transcendental idealism. Representations are not mental entities *and yet* are conditioned by ideal forms of sensible representation for us (space and time). The upshot is that Kant's transcendental idealism *does not turn* on the discovery of 'the finite and human *perspective*' but on the discovery of *a priori* synthetic cognitions and the transcendental forms of space and time.

Luft, however, considers the distinction between appearances and the thing in itself in terms of distinction between *perspective* (appearances) and object (thing in itself). Yet this interpretation of Kant's distinction causes more problems than it is meant to illuminate, for in so doing, Luft must either affirm a dogmatic realism *or* a notion of perspectives as phenomenal. Either way, he has slipped back to a

pre-critical point of view. In other words, Luft's claim that for Kant "the true distinction between objects and things-in-themselves is about considering the object as given from a perspective, and the object '*given*' *without a perspective* ('*only cognized*')" cannot stand. And the reason is that Luft believes that objects seen or given in perspective possess a "true being" that is *unconditioned*. As he writes: "The Kantian shift is thus to take *this perspective* [*our human standpoint*] seriously, more precisely, to see it as *constitutive* for the experience of things. Moreover, let us assume that the standpoint actually does something *to* the object. *This is not a manipulation of its* '*true*' *being*" (Luft 2011: 189). The implication is that the perspectives we have on 'things' are distinct from the 'true being' of the thing (hence his argument: if we assume that our perspectives 'do something to the object', the object 'itself', in other words 'its true being' remains unchanged). In this manner of thinking, Luft unknowingly considers perspectives as 'phenomenal' (i.e. distinct from the true being of the thing) and immanent to *our standpoint*; moreover, Luft unwittingly espouses what Kant himself called transcendental *realism* (i.e. 'true being' outside our perspectives) in the treatment of the Fourth Paralogism (Kant 1996: A369). The point I wish to make in calling attention to Luft's pre-critical reading of Kant's critical distinction is that his notion of perspective *qua* appearances mirrors his understanding of the relation between particular worlds as perspectives on the one life-world in his discussion of Gadamer and Husserl.

My contestation of Luft's reading of Kant's transcendental idealism has a further consequence for Luft's portrait of Husserl and its elision of a central problem in Husserl's conception of the life-world. Significantly, this problem can be approached from a Kantian angle. Kant devised two proofs for transcendental idealism: the direct proof of the Transcendental Aesthetics and the indirect proof of the Cosmological Antinomy. In Kant's celebrated antinomy, Kant demonstrates that valid arguments can be advanced for proving that the world is infinite as well as for proving that it is finite. This conflict of reason with itself – the "euthanasia of pure reason" – can only be resolved once we recognise a shared premise: the idea of the world as whole existing in itself. Kant's thinking here is that since this (false) premise equally underwrites transcendental realism (Luft's "true being" of the world that is *not* "manipulated by our perspectives"), transcendental idealism becomes *indirectly* demonstrated if we discard it.[15] The consequence is philosophically substantial: "If the world is a whole existing in itself, it is either finite or infinite. But both alternatives are false. It is therefore also false that the world (the sum of all appearances) is a whole existing in itself" (Kant 1996: A506–507/B534–505).

As I argued above, the *Husserlian* problem of the life-world for Husserl can be understood as an original formulation of the problem of the plurality of worlds;

[15] As Luft also expresses himself: "Husserl's version of transcendental idealism shows us a path to the true *being* of the world, rather than leaving us stuck with an irritating duality between thing-in-itself and appearance" (Luft 2011: 187).

which, in turn, I suggest, can be seen as a phenomenological elaboration of Kant's insight that the world *as such* is not an existing whole in itself. The problem of the life-world, in other words, is not the problem of the One world but the problem of an irreducible plurality of worlds, each of which is necessarily contingent, and yet grounded necessarily in a life-world that does not have the form of a world in particular. Husserl envisions a plurality of worlds within the life-world; in every particular world, regardless how remote each is from the others, there abides a *transcendental* sense of being at home, yet this sense of 'being-at-home' is *not* identifiable with a world of culture, given that the life-world is the extra-terrestrial (i.e. not itself a world in particular) home of every particular world of experience. The translatability from one particular world to another is underwritten by a transcendental openness of the life-world – and for Husserl this means the abiding possibility of *theoretical* alienation from any given context of meaning or particular world. This suggests that the recovery of a transcendental sense of the life-world is achieved through the discovery of the homelessness of transcendental subjectivity, or, in other words, its inhumanity: it is a pole of reference or activity onto which no perspective from within a world has a firm handle and yet without which no world in particular could be constituted. It is precisely the degree that transcendental subjectivity is not 'at home' that marks one of the many and significant differences with Heidegger (*Dasein* as being-in-the-world): transcendental subjectivity is not a being-in-the-world.

This theoretical alienation from any given context of meaning or 'space of reasons' leads to or opens or constitutes a necessary transcendental solitude; yet one must here work with careful distinctions so as to not mistake Husserl's position for what it is not. Especially useful in this context is a set of distinctions drawn by Arendt between 'isolation' (*Isolation*), 'solitude' (*Einsamkeit*) and 'loneliness' (*Verlassenheit*).[16] Arendt identifies 'solitude' as the requirement for thinking and moral judgment; a solitude that does not oppose or exclude judgments of others. By contrast, she identifies 'loneliness' as a loss of self and world, and hence, a condition of being one's own self-interests without distance. I would suggest that there is something comparable in Husserl's thinking: transcendental reflection is solitude, not loneliness. It is therefore, contrary to a received wisdom, not *solipsistic*. But this means that it is not 'at home' in the world; it does not 'fit in'. Likewise, the life-world is *einsam*: unique and alone, that is, not a home of culture even as it provides a home *to* culture.

From this vantage point, my principle reservation with Luft's reading of the life-world as a world of culture in Husserl is that it represents a transcendental *impoverishment* of the life-world in elevating a *particular world of culture* to a 'universal', i.e. to *the* universal and fundamental meaning of the so-called 'One structure' of *a priori* correlation. Luft's choice of terminology, "One structure" enforces this hypostatisation of culture. For, on the one hand, it is true that Husserl

[16] Arendt formulates these distinctions in her phenomenology of modern loneliness in *The Origins of Totalitarianism* (Arendt 1979). See also her essay, Arendt 1953.

himself identifies the *a priori* correlation as the fundamental discovery of this thinking; and which, in a celebrated footnote in the *Crisis*, he suggests was discovered at the beginning of his thinking, as early as the 1890s. On the other hand, the *a priori* correlation is not a 'One' structure. If the characterisation of 'One' is meant to indicate a uniform meaning to *a priori*, transcendental correlation – whether 'culture' or whatever – this reveals, in my view, a profound misunderstanding of the critical function of multiplicity and eidetics in Husserl's thinking. There cannot be 'one' meaning to the *a priori* correlation; at most, that would be inner time-consciousness, which Husserl acknowledges in his Lectures on Passive Synthesis is, as such, an abstraction without content. The point is that there are a multiplicity of irreducible *worlds* – some are culture, most are not; and this multiplicity of worlds is situated within the depth of the life-world which cannot be identified, on pain of reification, with any world in particular, including, most importantly for the argument I am here proposing, culture. The *a priori* correlation is not *one*; it is the openness onto multiplicity or openness in multiplicity. Husserl's phenomenology of transcendental origins is, in this specific sense, *fundamentally an-archic*. It is an anarchic theory of the multiplicity of eidetic forms under the *idea* of a regulative unity. The narrative of constitution can be told of every form of experience, yet in each of these worlds, 'being' must be spoken of in many ways: there is no 'one' meaning of being, no 'true being', not even 'culture', that provides the 'foundation' or 'horizon' for the manifold ways in which worlds can be experienced.

In closing, the rich legacy of Husserl's thinking, to which Luft's book has added another stimulating chapter, can be seen as a series of failures to domesticate a thinking that is always ahead and behind the times in which it is received. Such efforts should provide us with multiple lessons in hermeneutical sobriety, so as to help us avoid the tendency to *accommodate* the 'real Husserl' to our times in making of his 'true being' something that 'fits in' and can be 'at home' in our own particular worlds.

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Mathesis Universalis and the Life-World: Finitude and Responsibility

Rosemary R.P. Lerner

Abstract Scientific philosophy may be objectively or subjectively oriented for Husserl. As the former, it develops in a third-person perspective and employs deductive-explanatory methods. As the latter, and in a first-person perspective, it may become truly critical and radically foundational in character, its ultimate source of evidence being intuitive experiences belonging to self-responsible subjects. Formalism and the problems related to the *mathesis universalis* arise within the first sense of science, whereas transcendental phenomenology is, according to Husserl, scientific philosophy in the second sense. This paper seeks to show that since human experiences (which are ultimately founding) are essentially ongoing, finite and uncompletable, scientific philosophy in both its senses can only claim partial and relative truths and validities. Thus the radical scientific philosopher as a transcendental phenomenologist is called upon to lay bare the ultimate, *responsible* causes for the meaning and validity of being, and the 'ultimate foundations' of philosophy.

Keywords Transcendental phenomenology • Husserl • Formalism • Mathematics • Life-world • Radical foundations • Responsibility

The Twofold Sense of Scientific Philosophy

For Husserl, scientific philosophy ultimately has a twofold sense. On the one hand, it is developed within a 'subjective' or *first*-person perspective and is radical or 'critical' insofar as it attempts to disclose the philosophical origin of the positive sciences. Thus, it seeks to clarify both *how* their concepts, laws and theories, as well as their objects, can become manifest 'for us' if they are essentially 'in themselves'; and *how*, entering the flux of lived experience, they can be thought, expressed and applied to experience without thereby losing their objectivity and transcendent meaning. Regarding knowledge, then, the aim of scientific philosophy in this first

R.R.P. Lerner(✉)
Humanities Department, Pontifical Catholic University of Peru, Lima, Peru
e-mail: rosemary.rizopatron@pucp.edu.pe

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sense is to "*understand* the *ideal meaning* of the *specific* connections in which the objectivity of knowledge may be documented" (Husserl 2001b: §7, 178 [127]).[1] Such scientific philosophy is conceived of as an open-ended, unified edifice on which successive generations perpetually and rigorously build, in a teleological process of infinite tasks, with the goal of resolving "all conceivable problems in philosophy". Phenomenologists, as scientific philosophers, accordingly "foreswear the ideal of a philosophical system" as humble members of a community living and working "for a *philosophia perennis*" (Husserl 1997: 179 [301]).[2]

On the other hand, the usual, *positive* sense of scientific philosophy developed within an 'objective' or *third*-person perspective arises and develops in the natural, 'dogmatic' attitude, employing concepts and laws or building systems and theories with theoretical-explanatory methods. Even scientists working in purely formal-deductive sciences presuppose knowledge as a *factual* occurrence in nature. Sciences oriented 'objectively' find their highest degree of rationalisation in conceptual and symbolic thought, and ultimately in the universal development of a *mathesis universalis*, which, as a powerful formal tool, promises to enable the overcoming of the finite capacities of human experience.

But, according to Husserl, this second sense can secure its radical foundation only if it is complemented by the first sense; such that the sciences' conceptual and symbolic structures are traced back to their respective meaning-constituting judging experiences, and these in turn to the ultimate source of their evidence in intuitive experiences, finite and limited in scope though they are. Husserl allots this foundational task to transcendental phenomenology as the idea of a scientific, rigorous, universal, self-founded and founding philosophy, which is characterised as a reflexive movement towards the experiencing subject and its ultimately intuitive, meaning-giving and validating experiences in the life-world. Transcendental phenomenology is thus imbued with an ethical-cognitive pathos of *self-responsibility*: it requires that the subject assume its *responsibility* for its theoretical and practical productions and endow them with meaning and validity, rather than justifying them by appealing, say, to a *deus ex machina*.

Since science, for Husserl, is ultimately founded on the radical open-endedness and finitude essential to human experience in the life-world, it is essentially ongoing and uncompletable in both its senses – subjective/critical and objective/dogmatic. For this reason, transcendental phenomenology itself can lay claim solely to truths and validities that are always only partial, relative and provisional achievements in an ongoing, teleological process of infinite tasks.

The problem of formalism and of *mathesis universalis*, which is the present study's chief concern, arises within the second sense of science. And this problem

[1] German edition: Husserl 1984. Henceforth, cited with English and [German] page references, respectively. NB: translations cited in the course of this study have been modified (without notice) whenever it has been deemed necessary; all others stem from the author. NB in quotations throughout, emphasis is in original, unless otherwise stated.

[2] German edition: Husserl 1962. Henceforth, cited with English and [German] page references, respectively.

has two aspects: a conceptual, properly 'logical' – that is, philosophical – aspect and a technical aspect, which inheres in a technique or an *ars* of calculative operations. The development of a *mathesis universalis*, by means of a sophisticated formalisation of mathematics in an open-ended process, is carried out at the cost of an erosion of its meaning-foundation in the life-world.

The Phenomenological Critique of Formalism

Formalism cannot *per se* be criticised – even when it is equated with the purely technical dimension of signs, calculative operations and their 'game rules'. So when phenomenology undertakes a critique of formalism, it is in view of three ways in which formalism conceals and forgets its meaning-foundation: firstly, when, as an *ars*, it conceals its *conceptual* foundation (both inauthentic and authentic); secondly, when it replaces natural deductive procedures with formal calculative operations and rules, and then claims that the latter are a *logic* and not merely a *technique*; and, thirdly, when it employs an *ontological* interpretation of forms as constituting the 'being in itself' of the world, and does not simply interpret them as mere *methodological* yet powerful human tools to overcome the limitations of our intuitive capacities of representation.

Following Brentano, Husserl undertakes the first critique of formalism – that as an *ars* it conceals its conceptual foundation – in *Philosophy of Arithmetic*. There he rejects the purely analytical understanding of arithmetic, mathematics' founding science, found in Helmholtz's or Riemann's accounts of that discipline (Husserl 2003).[3] Husserl maintains this view in all essentials for the rest of his life. He complains that the development of mathematical operational techniques during the eighteenth and nineteenth centuries *has not brought with it* a corresponding development of the *philosophy of mathematics*, since those "portentous" techniques do not provide the means for acquiring the requisite *philosophical* understanding of the nature of mathematics (Husserl 1994c).[4] To gain such an understanding, he contends, logical investigations into the origin of symbolic (inauthentic) methods must follow psychological, intuitive investigations. And although in this first book he still conceives of intuition as empirical, his use of it there nevertheless anticipates traits of his future ideal concept of categorial intuition.

Hence Husserl seeks to secure the positive, natural *concept* of cardinal number as 'plurality' by tracing it back to the concrete, intuitive *phenomenon* of a totality or compound of whatever objects, devoid of qualities and reduced to mere unities or 'somethings'. This compound is also endowed with a specific sort of relation among

[3] German edition: Husserl 1970a, b, c. German page reference, which is indicated in the text of the translation.

[4] German edition: Husserl 1979 [1891]a. Cited with German page reference, which is included in the margins of the translation.

or combination of its unities: a *collective combination* (Husserl 2003: 18–20, 79), a *sui generis* "psychical" combination that is not affected by any change within the units it combines; for the combination and the combined units are not on the same level. The *reflection* upon this collective combination guided by a unitary interest enables one to abstract from the phenomenon of totality the indeterminate concept of plurality, represented by '1 + 1 + 1', where '1' represents the unities and '+' represents the relation (Husserl 2003: 74). To reach the "general and abstract concept of number" – namely, the ideal intuitive (or authentic) concept of number – the concept of plurality must be determined "from below", based on this abstraction from a totality or compound of related unities.[5] Indeed, it is our contention that, even when Husserl expands his notion of intuition to include eidetic and categorial intuitions, this determination "from below" is still operative, since both types are conceived of as "founded acts". For even if the *eide* or forms prevail over their concrete or illustrative instantiations – and thus the eidetic and categorial intuitions prevail over sensible intuition (perception or imagination) – the latter is what enables the operation at different levels of idealising abstraction. We shall return to this matter in section "The Actualisation of the Ideal World" below.

Now it is true that in *Philosophy of Arithmetic* Husserl still maintains that a *symbolic* abstraction must replace authentic concepts with 'inauthentic' or empty ones, and a further replacement of these symbolic concepts with *physical* signs must ensue due to the essentially finite and limited scope of our intuitive capacities. Hence, although these psychological investigations do not suffice to offer a complete philosophical foundation to arithmetic and mathematics as a whole, they nevertheless reveal Husserl's epistemological commitment and enduring elements of his nascent phenomenology insofar as they demand that the evidence of formal thought be traced back to its intuitive source.

The second critique of the replacement of deductive operations by calculative techniques appears in Husserl's review of Ernst Schröder's *Vorlesungen über die Algebra der Logik (Exakte Logik)* (Husserl 1994c). There Husserl challenges the then-current attempt to substitute the limited domain of "pure logical deduction" – still operative in the old "intensional logic" or "logic of contents" (*Inhaltslogik*) – with inferential techniques of logical calculus that prevail in the new "extensional logic" (*Umfangslogik*); a contention that he develops elsewhere (Husserl 1994a, b).[6] Husserl refutes Schröder's contention that the study of extensional logic should be utterly independent "from all contents and content relationships whatsoever" (Husserl 1994c: 19). He maintains instead that "an extensional logic which is independent in *this* manner is impossible in principle" and that "so little is it true that the logic of extension is to be treated independently of the logic of intention. . .that when doing extensional logic we yet stand within intensional logic, or subordinate to it" (Husserl 1994c: 19–20). By the same token, the "algebra of logic", or "algebraic calculus", is merely a "dexterous technique", but is not

[5] This is Burt Hopkins's argument (see Hopkins 2002: esp. 58–63).

[6] German editions: Husserl 1979 [1891]b, 1979 [1891]c.

equivalent to "deductive logic", which governs the domain of "pure deduction" (Husserl 1994c: 8). Thus, to calculate is not to deduce; indeed, calculus is not even logic but only a "technique to manipulate signs" (Husserl 1994c: 8). The lack of clarity on the part of logicians in this regard is similar and related to the lack of clarity on the part of mathematicians regarding arithmetic, "the most highly developed of calculative disciplines", which they have elaborated "far removed from a deeper grasp of its fundamental principles", with a "lack of clarity" "so far-reaching that there is not even minimal agreement upon the true conceptual foundations of this science" (Husserl 1994c: 22).

Thus, despite the fact that this symbolic substitution – not only of conceptual representations with 'signs' but also of the *psychic* and real *activities* with 'mathematical calculative operations' that have their own 'game rules' – gains in importance in Husserl's account of the foundation of mathematics (see section "Positive Appraisal: Formalism as the Highest Degree of Rationalisation" below), he will henceforth maintain his distinction between the tasks and qualifications assigned to the *philosophers* of logic and to logical *technicians*, respectively – where the latter are never qualified to undertake the tasks of the former (Husserl 1994c: 9). Philosophers motivated by epistemological concerns regarding the question of *evidence* will always be concerned with the founding character of authentic (*eigentlich*) or intuitive thought in relation to symbolic and inauthentic (*uneigentlich*) thought. This idea lies at the heart of Husserl's conviction that *Inhaltslogik* founds *Umfangslogik*. Nevertheless, in his 1891 review of Schröder's book he acknowledges that we can refer to the content of the ideal symbolic concepts of *Inhaltslogik* only in an "empty way" (Husserl 1994c: 17–20).[7] It is only after his inclusion of "categorial intuition" as the source of the evidence of categorial or syntactical forms in 1900–1901 that the distinction between 'logical technicians' and 'philosophers of logic' is strengthened. At the centre of this distinction is the complex Husserlian notion of 'eidetic intuition', which cannot simply be equated with Descartes's mathematical and dualistic conception of intuition.

The third critique, in which an ontological interpretation of forms replaces their merely methodological meaning, appears in Husserl's *Crisis of European Sciences and Transcendental Phenomenology*, from 1936, in the context of his claim that modern physicalistic rationalism has forgotten its meaning-foundation in the life-world (Husserl 1970b: 65 [66]).[8] This is due, he says, to the fact that a new ideal mathematical infinity and a new *formalised* mathematics – originating from a new formalising abstraction that occurs with the arithmetisation and later algebraisation of geometry – gives rise to analytic geometry and continuum mathematics as the basis of a new natural science. Thus, modern physicalistic rationalists come up with the idea of an "omniscience", "thought of as ideally complete", since they believe

[7] See also: Husserl 1979 [1891]b, 1979 [1891]c.

[8] German edition: Husserl 1954b. Henceforth, cited with English and [German] page references, respectively.

themselves to be "in the happy certainty" of possessing "an infallible method of broadening knowledge, through which truly all of the totality of what is will be known as it is 'in-itself' – in an infinite progression" (Husserl 1970b: 65 [67]). The result of this process is a nascent philosophical 'naturalism', which views the entire universe as physical nature or its analogon. Thus, Galileo introduces the idea that the "book of the universe" is written *sub specie aeternitatis* in a mathematical language.[9] This idea is later retrieved by Johann Carl Friedrich Gauss (1777–1855) with his dictum *ὁ θεὸς ἀριθμητίζει*, an expression that Husserl criticises and replaces in his *Philosophy of Arithmetic* with his *ὁ ἄνθρωπος ἀριθμητίζει* (Husserl 2003: 192). He reiterates this same criticism in 1936, when he states that the prototype of geometry and physics is *arithmetic*,[10] such that "physics…hypothetically presupposes an analogon of the closed infinity of the number series" (Husserl 1992: 205–205). Gauss's view, which is influenced by modern physicalistic rationalism, is wrong according to Husserl: the universe can never have a logically determinable (*logifizierbaren*) horizon "in a logic that is logistic", where each may *idealiter* extend the evidence of his own experience of the universe *ad infinitum* (Husserl 1992: 205–206). Nevertheless, this view has prevailed in the Western world for 300 years, despite the fact that it cannot explain *how* it is theoretically *construable* in a human (transcendental) experience.

Hence, since modern times, arithmetic has been a calculative technique (Husserl 1970b: 46 [46]), which entails a 'mechanisation' of all domains of mathematics and natural science and an emptying of their meaning. As a result:

> It is through the garb of ideas that we take for *true being* what is actually a *method* – a method which is designed for the purpose of progressively improving, *ad infinitum,* through scientific predictions, those rough predictions…within the sphere of what is actually…experienceable in the life-world. It is because of the disguise of ideas that the true meaning of the method, the formulae, the 'theories', remained unintelligible and…was *never* understood. (Husserl 1970b: 52 [52])

Husserl's aim in the *Crisis* – much as in *Philosophy of Arithmetic* – is to understand (and thus 'recover') the forgotten meaning-foundation of this mathematised natural science (Husserl 1970b: 49 [49]). In this connection, Galileo is regarded as a "discovering and concealing genius" (Husserl 1970b: 52 [52–53]) who discloses the world in the light of "true exact lawfulness" (idealised and mathematised) while at the same time concealing the meaning of mathematisation itself. Here Husserl demands that we:

> *inquir*[*e*] *back* into the *original meaning* of all his [the scientist's] meaning-structures and methods, i.e., into the *historical meaning of their primal establishment*, and especially into the meaning of all the *inherited meanings* taken over unnoticed in this primal establishment, as well as those taken over later on. (Husserl 1970b: 56 [57])

[9] See §6 of Galilei 1960. Italian edition: Galilei 1968 [1623].

[10] See Husserl 1992: 205 – "The *mos geometricus* is…in fact *mos arithmeticus*."

Positive Appraisal: Formalism as the Highest Degree of Rationalisation

At the same time, however, formalism does have positive aspects within objectively oriented philosophical research. In *Ideas* I Husserl notes that physics has been "rationalized" since the beginning of modern times with the application of Euclidian geometry, and the interpretation of the material thing's essence as *res extensa* from Descartes onwards (Husserl 1983).[11] The flourishing of formal mathematics since the dawn of modernity has continued this "*same function of rationalizing the empirical*" (Husserl 1983: 20). Formal ontology, beyond the material ontologies of physical nature, deals with mere *essence-forms*, each of which is "indeed an essence but completely '*empty*,'. . .that, *in the manner pertaining to an empty form*, *fits all possible essences*", prescribing formal laws and a common formal structure to all "material" universalities and their ontologies (Husserl 1983: 21). Thus, it deals not with a region but with "*the empty form of any region whatever*", subsuming "*under* it – though only formally. . .all the regions, with all their materially filled eidetic particularizations" (Husserl 1983: 22). As a consequence, "*formal ontology contains the forms of all possible* [material] *ontologies*" and coincides with the *mathesis universalis* (which "includes nothing but empty forms") (Husserl 1983: 27) or "pure logic in its full extent", an "eidetic science of any object whatever", whereby its "'fundamental' truths. . .function as '*axioms*' in the disciplines of pure logic" and "express the unconditionally necessary and constitutive determinations of an object as such, of any thing whatever" (Husserl 1983: 22).

As noted above, in 1890 the 'logical foundation' of arithmetic that Husserl deemed necessary involved a "formalizing abstraction" that consists in a *sui generis* "substitution" of its intuitive point of departure, which is acknowledged to be essentially finite and limited. For:

> If we had authentic representations [*Vorstellungen*] of all numbers, as we have of those at the beginning of the number series, then no arithmetic would exist, since it would be completely superfluous. The most complex relations among numbers, which we now discover with difficulty by means of longwinded reckoning, would be simultaneously intuited with evidence just as propositions of the sort $2+3=5$. . . .In fact, however, we are limited in our representation capabilities. The fact that we find here some kind of limit within ourselves resides in the finitude of human nature. We can only expect authentic representations of *all* numbers from an infinite understanding; . . .Thus the entire arithmetic, as we will see, is none other than a sum of technical means to overcome the essential limitations [*Unvollkommenheiten*] of our intellect here mentioned. (Husserl 2003: 191–192)

Indeed, the arithmetical domain includes negative, rational, irrational and imaginary numbers. The introduction of the irrational numbers poses the greatest

[11] German edition: Husserl 1976. Henceforth referred to as *Ideas* I with reference to the pagination of the original German edition, which is included in the margins of both Husserliana edition and the translation.

difficulties, since it implies the inclusion of infinite operations and sets, as well as the 'actual' or 'mathematical' infinite (see Strohmeyer 1983: xvii).

So when Husserl acknowledges in *Philosophy of Arithmetic* that when he refers to "infinite groups" or "multitudes" (as the points of a line, or the limits of a continuum) and what we *de facto* are able to represent ("a determinate unlimited process", or "what is *included* in its conceptual unity"), he is employing an "essentially distinct" concept, "as it were, imaginary", "which is no longer a concept of a 'group' in the true sense of the word" (Husserl 2003: 221). Furthermore, symbolisation itself and the formation of conceptual numeric series do not take place uniquely on the basis of purely symbolic, inauthentic or 'empty' *concepts*. They must somehow be 'fixed' in a 'sensible' manner, which puts us again in contact with some sort of *sui generis* intuitability that allows us, however strangely, to overcome the intuitive limitations of our representations. As a consequence, *physical signs* finally come to be substituted for the inauthentic *symbolic concepts* by which they are determined and denoted.

But if this is the case, if the arithmetician moves within the operative terrain of a 'technique', the question arises as to how formal calculative processes with signs are validated or legitimated. There must be a parallelism of some kind between 'symbolic concepts' and signs, such that arithmetic may validate *the extension of the numeric domain*. But already, in a manuscript from 1890 in which Husserl discusses different extension theories (*Erweiterungstheorien*), he presents his own theory according to which such extension concerns not the *conceptual* foundation of arithmetic but only the *rules* of *signs* and the calculative *technique* (Strohmeyer 1983: xxxii–xxxvi).[12] Hence, he considers extension to be the result of "pure formalism" insofar as it is totally *free* and *independent* of its conceptual basis. Furthermore, this formal domain need not be founded on *axioms*. Only later in Göttingen, under Hilbert's influence, does Husserl reinterpret his *arithmetica universalis* with reference to axioms. In any case, his initial conception was not subject to Kurt Gödel's later critique of axiomatic systems (see Gödel 1967).[13] But our concern here is that arithmetic, for Husserl, henceforth has a purely *formal* character.

Formalism serves, then, to *compensate* for the *finitude* of our constitution of infinite manifolds, such as mathematical series, and our capacity to represent them authentically on the basis of units (Husserl 2003: 219). For more than any other science, says Husserl, arithmetic manifests the finite and imperfect constitution of human cognition. It is in this connection that he introduces his expression *ὁ ἄνθρωπος ἀριθμητίζει*.

Formalism therefore plays a crucial role. The finite, temporal character of human cognition is compensated for by the "portentous" possibilities that the formalisation of arithmetical thought entails:

[12] See also Husserl 1886–1901: 28–44.

[13] German edition: Gödel 1931.

> A symbolic extension of the substantially finite construction of groups is necessary, according to Husserl, since we are *finite* and *temporal* beings. An eternal and infinite being does not calculate. The *infinitude of mathematics* would thus be conceived of as a peculiar form of finitude. An *actual* infinitude would be from the outset absurd. (Eley 1970: xiii–xiv)

Husserl maintains this view *mutatis mutandis* until the end of his life. Hence we read in the *Crisis*: "Here we must take into account the enormous effect – in some respects a blessing, in others portentous – of the algebraic terms and ways of thinking that have been widespread in the modern period since Vieta (thus since even before Galileo's time)" (Husserl 1970b: 44 [43–44]).

Research for the second volume of his *Philosophy of Arithmetic* led Husserl to develop a philosophy of calculus that, on the unitary basis of the *formal* character of arithmetic, aims: firstly, to develop the *logical foundation* of general arithmetic as a science of *calculus*; secondly, to solve the problem of the *extension* of the numeric domain as an algorithmic extension of the same (formally understood); and thirdly, to analyse the possibility of applying arithmetic to different conceptual domains with identical algorithms (see Strohmeyer 1983: xxxviii). Thereafter, Husserl regards not the concept of natural number but rather the set or group and the manifold as the most general and founding concepts of the arithmetisable domain (Strohmeyer 1983: xxxviii),[14] even though he never abandons his initial conception of arithmetic as a "general theory of operations" or a "science of calculus" (Strohmeyer 1983: xiv). Thus Husserl says in 1900 in the foreword to his *Logical Investigations*:

> There were evidently possibilities of generalizing (transforming) formal arithmetic, so that, without essential alteration of its theoretical character and methods of calculation, it could be taken beyond the field of quantity, and this made me see that quantity did not at all belong to the most universal essence of the mathematical or the 'formal,' or to the method of calculation which has its roots in this essence. I then came to see in 'mathematicizing logic' a mathematics which was indeed free from quantity, while remaining none the less an indefeasible discipline having mathematical form and method, . . .important problems then loomed before me regarding the universal essence of the mathematical as such, . . .and especially, e.g., regarding arithmetical and logical formality. (Husserl 2001a: 1–2.[15]

The Idea of a Pure Formal Logic

Finally, in his *Prolegomena to Pure Logic*, in view of the aforementioned formalism and technical advances in mathematics during the nineteenth century and while attempting to clarify the essence of pure logic as an *a priori* (universal, necessary) science in the sense of a 'theory of theories', Husserl proposes the idea of a "*theory form*" which can govern any nomological sphere of cognition "*having such a form*",

[14] See also Husserl 2003: 493.

[15] German edition: Husserl 1975: A vi. Henceforth, cited with English and [German] page references, respectively.

a sphere that in mathematics is termed 'multiplicity'. In other words, multiplicities are subordinated to certain possible combinations of their objects, and to *certain* principles of a *determinate form*, namely, to certain "theory forms". The contents of those multiplicities have been dispensed with, and what is defined is simply their *theory form*. Husserl contends that all individual theories concerning diverse multiplicities "are specializations or singularizations of corresponding theory forms" (Husserl 2001a: §70). Pure logic is therefore held to constitute this "formal theory of science" as a "*theory of possible forms of theories* or (correlatively) the *theory of multiplicities*" (Husserl 2001a: §69). Later, in *Formal and Transcendental Logic*, Husserl conceives of this *broadened analytics* in the sense of the Leibnizian ideal of *mathesis universalis* as the highest level of formalisation – as a "theory of deductive systems" and correlatively a "theory of multiplicities" built on a formal apophantics and, correlatively, a formal ontology. Indeed, Husserl indicates that this formalising abstraction or "reduction", which leads to the theory of multiplicities, is possible only on the basis of "nomological" or exact sciences, such as Euclidian geometry (Husserl 1969: §§29–30).[16] Accordingly, the ideal of this science has already been partially accomplished by Riemann and others; namely, through their development of the "multiplicity theory of modern mathematics" as a science of possible deductive systems. Instead of the 'Euclidian space' we would thus obtain the "categorial *form* 'space'" (Husserl 1969: 82).

What is novel in this formulation in *Formal and Transcendental Logic*, from 1929, relative to how he expressed the idea in 1900, has to do, of course, with Hilbert's influence and his idea of a "complete system of axioms" or his "axiom of completeness" (Husserl 1969: 84). It gives rise in turn to the idea of a "*definite multiplicity*" (Husserl 1969: 83), which is "the pregnant concept of multiplicity" as a "'deductive', 'nomological' system" (Husserl 1969: 82). At issue here is a purely formal axiomatic system, which is to say, a deductive system whereby a multiplicity in the sense of an "*infinite sphere of objects*" has the "*unity of a theoretical explanation*" (Husserl 1969: 83–84). This means, above and beyond the formalisation of the Euclidean axiomatic system, that *any* "*nomological science*" and its correlative *infinite sphere* (or "multiplicity") "is defined, *not by just any formal axiomatic system*, but by a '*complete*' one" (Husserl 1969: 84). So, for Husserl, a science is a multiplicity when it has a "*unity-form that can be constructed a priori*. . .on the basis of a finite number of pure axiomatic forms, by *means of logical categorial concepts*", from which is deduced "the infinite multiplicity of propositions making up a science" (Husserl 1969: 90). There is thus a *finite*, *complete* number of *axioms* that function as premises, and an *infinite* number of possible propositions that can be inferred as conclusions. As a result: "*Mathesis universalis* (which henceforth is equivalent to logical analytics) is, *for a priori reasons*, *a realm of universal construction*" (Husserl 1969: 90–91).

[16] German edition: Husserl 1974: §§29–30. Henceforth cited with page references to the original German edition, which are included in the margins of both the Husserliana edition and the translation.

The Actualisation of the Ideal World

As a 'critical', radical science, philosophy cannot rest satisfied with this 'objective' orientation, even if it achieves the 'highest levels' of rationalisation, as in pure logic in the sense of a *mathesis universalis*, for this orientation remains in the 'natural attitude'. Instead, *critical* philosophy must attempt to clarify the question of the essential origin of every positive science, including formal logic. Thus, it has an epistemological motivation: to discover how logical and mathematical entities in general (and the 'deductive forms of connection') can have empirical application, even though their evidence does not derive from sensuous experience. Or even how it is that what 'is in-itself' and its 'rational evidence' can be articulated by empirical, cognitive consciousness and its 'psychological evidence'. These issues led Husserl in 1898 to the "universal apriori of correlation" (Husserl 1970b: §46), and thus to the version of *intentionality* he developed in his transcendental phenomenology.

Indeed, whereas the *natural* surrounding world is the correlate of our perception and of most of our actual and possible *experiences* as "*immediately* present" (Husserl 1983: 50), "pure numbers and their laws" (Husserl 1983: 51) are not present for us unless we adopt the *arithmetical attitude* by focusing our cognitive regard on the arithmetical realm. For one to perceive the natural, real world, one need only open one's eyes and be awake. Matters are different in the case of "surrounding ideal worlds", such as the arithmetical world. Indeed, the "contact" between these two worlds arises from a *spontaneous act of our subjective consciousness*, and its activities or experiences. Accordingly, Husserl asserts: "The two, simultaneously present worlds are *not connected* except in their relation through the ego by virtue of which I can freely direct my regard and my acts into the one or the other."

Since this ideal, formal world is the result of the spontaneity of our consciousness, this cognitive activity must be distinguished from any arbitrary product of our likewise spontaneous imagination, and specified in relation with the otherwise *passive* character of sensory perception.

To do so it is first necessary to discard all *nominalist* prejudices regarding essences, ideal forms, and their correlative essential intuitions. These forms are not merely "grammatical hypostases", or abstractions stemming from "psychic processes". Consequently, the logical element (e.g. in 'π is a transcendent number') must be clearly distinguished from the individual cognitive act or lived experience (judgment) whereby we posit it. Husserl does not assume here the existence of a *τόπος οὐράνιος* where these logical entities (both linguistic meanings and ideal objectivities) would reside, since this "metaphysical hypostasis" is also absurd (Husserl 2001a: 230 [105–106]). Rather, besides *reality* proper, constituted by *factual*, *actual*, *existing*, *individual* entities, he contends that there is a realm of *essential*, *possible*, *ideal*, *universal objectivities* that, though they do not "exist", nevertheless have a right "to be". Thus, he says:

> we know with *full insight* that propositions. . .such as 'a + 1 = 1 + a', 'a judgment cannot be colored', 'of any two qualitatively different tones, one is lower and the other higher', 'a perception is, *in itself*, a perception of something', . . .give explicative expression to data of eidetic intuition. (Husserl 1983: 38–39)

By contrast, *real objects* or entities – whether physical or psychical – are *experienced* in *empirical intuitions*; the most basic being the *perception* of physical things and *reflection* upon psychical states, the ego, or consciousness. All sciences of sensory experience are "*factual* sciences" that deal with *individual and existing beings*, the essences of which are *contingent*. The "laws of nature" concern these factual or morphological essences (essential types or *eide*), and are obtained by *inductive generalisations* based on *empirical intuitions* of the "essential properties" shared by a set of individual facts. These "essential predicates" of empirical facts, which express "essential universality and necessity" of the laws of nature, are correlates of eidetic intuitions. Laws of nature, then, are judgments or propositions that *essentially* predicate properties of *existent beings*, and their correlates are *facts of nature*. But the essential predicates of factual data or *eide*, and the corresponding laws of nature, *are not exact*, but merely *morphological* or "descriptive". Thus, concepts such as "'serrated', 'notched', 'lens-shaped', 'umbellated', and the like – all. . .are *essentially, rather than accidentally, inexact* and *therefore* also non-mathematical" (Husserl 1983: 138). Yet, there are judgments or propositions that predicate *essentially* about exact entities that do not exist, such as geometrical figures. Indeed, geometers draw their particular figures on the basis of 'sensuous intuitions' that are merely exemplary illustrations of the ideal, general attributes and properties expressed in their theorems. Consequently, the "essential universality" of geometry is *unconditioned*, thereby differing from the "inductive generality" of the laws of nature. For eidetic intuition to occur in such cases, an additional step must be taken beyond the "inductive generalizations" by means of which the morphological *eide* are accessed. Another sort of "idealizing abstraction" is necessary in order to grasp entities whose "mode of being" is *entirely ideal and exact*. The objects of "purely mathematical disciplines, the material disciplines such as geometry and phoronomy, the formal (purely logical) disciplines such as arithmetic, analysis, etc." (Husserl 1983: 44) – disciplines with the highest degree of rationality – are *purely exact essences*, "ideal possibilities", among which axiomatic relations are established by means of purely deductive inferences" (Husserl 1983: 136–137). Such concepts are, for Husserl, "'*ideas*' *in the Kantian sense*", namely, "*ideal* '*limits*'", which in principle cannot be "seen", since they have no corresponding sensuous intuition or perception, and towards "which morphological essences 'approach' more or less closely without ever reaching them" (Husserl 1983: 138).

Here it is necessary to clarify Husserl's position, since it is widely believed that the "laws of nature" are exact formulations of how nature really works. As noted above in section "The Phenomenological Critique of Formalism" regarding Husserl's third critique of formalism, since the dawn of modernity and the 'mathematisation' of nature, the consequence of the *application* of both Euclidian and analytic geometry in physics has been the *ontological* interpretation of this

"portentous" mathematical instrument as depicting nature "in itself", which has given rise in turn to the popular view that the laws of nature are exact. Yet for Husserl this view entails an error and a *μετάβασις εἰς ἄλλο γένος*; indeed, he contends that Newton was wrong when he said "*hypotheses non fingo*" (Husserl 1970b: 42 [41]). The laws of nature *themselves* are not exact; what are exact are the mathematical *eide* or forms, and their respective laws. But these have only a *methodological* and *hypothetical* – not an *ontological* – significance regarding nature.

In *Ideas* I, Husserl also contrasts two sorts of exact "ideal" concepts or entities: "material" and "formal" (Husserl 1983: 26–27) – the heirs of the former distinction between "authentic" and "inauthentic" concepts – to which correspond two distinct cognitive processes. Thus, the *eide* of Euclidian geometry are distinct from those of the "*formal-ontological* disciplines, which, besides formal logic in the narrower sense, embrace the other disciplines of the *mathesis universalis* (including arithmetic, pure analysis, the theory of multiplicities)" (Husserl 1983: 18). As noted, formal entities are "devoid of content", whereas *material eidetic disciplines* such as Euclidean geometry are regional ontologies of physical nature, upon which are founded the physical sciences themselves: "*Every factual science* (experiential science) *has essential theoretical foundations in eidetic ontologies*" (Husserl 1983: 19). So the following strata of objectivities are distinct, yet connected: *real* or individual entities, "material" *eide*, and finally "formal" entities.

The cognitive intuitive process that leads from *individuals* to *species*, namely, to the material and synthetic region (e.g. from the 'drawn' triangle to the 'essence triangle' and to the 'spatial figure'), is *generalisation*; whereas the inverse process leading from the ideal to the real sphere is called *specialisation* (Husserl 1983: 26). The symbolic process leading from synthetic *eide* to "formal, analytic, universalities" and consisting in an "emptying of content" is called *formalisation*, whereas the inverse process of "filling out" the empty *formal categories* with content is termed *materialisation* (Husserl 1983: 22, 26–27). Formalisation, as noted, can occur not on the basis of morphological *eide*, which belong to descriptive sciences, such as phenomenology itself (Husserl 1983: 141), but only on the basis of *exact eide*, such as those of Euclidean geometry or other nomological sciences, whence emerges the *form of multiplicity in a pregnant sense*.

In his 1936 text on 'The Origin of Geometry',[17] Husserl describes these complex processes as occurring historically, generatively and intersubjectively in the life-world, from the time of the first geometers in Ancient Greece down to the modern mathematisation of nature with Galileo (Husserl 1970a). According to Husserl, geometric "ideal objectivities" are "discovered" by geometers, who *interpret* them, thereby "constituting" their "meanings" and fixing them in linguistic predications, which in turn gives rise to geometric *science*. In other words, it is by means of "linguistic expressions", by geometrical propositions constituted throughout history, especially by written language (ideal *meanings* and their sensible *bodies*), that

[17] German edition: Husserl 1954a.

geometry's *objective* truths become manifest. Indeed, only by means of semiotic, sensuous elements do ideal meanings become *fixed* and *sedimented*, thereby acquiring their objective *stability*, which allows their reactivation in new, spontaneous, cognitive acts, as well as their iteration and intersubjective transmission throughout the generations (Husserl 1970a: 358 [369]). Every cultural production is marked by a similar *historicity*, from its "original constitution of meaning" on (Husserl 1970a: 371 [380]). Geometry's "history of meaning" started with "idealizing abstractions" that were based on observed *reality*. The first geometers initially faced perceptual and empirical forms and magnitudes in the surrounding natural world, besides such "secondary" qualities as colour, temperature, weight, hardness and impenetrability (Husserl 1970a: 376 [384]). Based on those measurable, more or less perfect forms, contours, and surfaces, inductive generalisations or vague abstractions were carried out, which led to the imperfect circular figure (or morphological *eidos*). Thus, in Ancient Greece, the new "theoretical attitude" introduced a new type of *subjective-cognitive theoretical activity*: "a spiritual idealizing activity. . .that. . .creates 'ideal objectivities'", such as the absolutely perfect, spherical, "limit-ideal" figure of 360 ° (or exact *eidos*) (Husserl 1970a: 377 [384–385]). Such ideal objectivity was transmitted and reproduced with unconditioned universality throughout history down to Galileo as a "cultural acquisition" by means of written language. When reactivated in the Renaissance, it underwent a "transformation": the introduction of algebra enabled the formalisation of Euclidean geometry, which yielded analytic geometry.

So on Husserl's view, the "crisis of European sciences and humanity" is due not to the "application" of analytic geometry to the physical world but to the "shift in meaning" whereby it is *concealed* and *forgotten* that mathematical disciplines are only powerful "methods" and ingenious "hypotheses" *constructed by finite human beings*, not *ontological* descriptions regarding a supposed reality "such as God sees it in itself". It is forgotten that the "ultimate source of meaning" of such a hypothetical method is the fruit of an idealising abstraction – a *subjective activity* whereby its origin is found in pre-predicative experiences occurring in the "life-world" that initially are entirely *passive* (Husserl 1970b: 48–53 [48–54]). To this initial contingency is added the vicissitude of a "secondary passivity", which stems from the historical sedimentation of original evidences as they are generatively transmitted throughout history, and which brings about the aforementioned crisis of European sciences and humanity.

The Genealogy of Logic

The essential *limit* of the right and legitimacy of logical principles is none other than the limit of experience. The acknowledgment of that limit is none other than the "realization of its *critique*" (Husserl 1969: §§73–80, emphasis added).

As noted above, from 1890 to the end of his life, Husserl maintained that mathematical concepts and their analytic predications were to be traced back to

pre-predicative experiences, through a series of interpretative acts of "inductive generalization", "idealizing abstraction" and finally "formalization".

In accord with these early notions, his posthumous work, *Experience and Judgment*, also indicates that "every predicative evidence must be ultimately founded on the evidence of experience", so that "the task of elucidating" the "origin of predicative judgment" in "pre-predicative evidence", as well as that of clarifying the latter's origin "in experience", is "the task of the *retrogression to the world* as the universal ground of all particular experiences, . . .immediately pre-given and prior to all logical functions". This task, the "genealogy of logic", is carried out by means of a "*retrogression to the 'life-world'*" (Husserl 1973: 41, emphasis added).[18]

Experience, in its widest and primary sense, is thus the evident experience of individual objects. Our first judgments or predications, *sensu stricto* "experiential judgments", deal with individuals. But every *judgment* or predication is preceded by the "evident givenness" or *experience* of those same individuals.[19] This pre-predicative experience is the point of departure of every judicative, predicative or linguistic inquiry. Objects are always pre-given to us with certainty before we ever act cognitively on them. "Passive pre-givenness" prior to every apprehension is pure "affection", which is never an isolated act of an isolated object, but rather is given within a surrounding context or horizon. This passive, pre-given horizon is the "*world* [that] always precedes cognitive activity as its universal ground, and this means first of all a ground of universal passive belief in being which is presupposed by every particular cognitive operation" (Husserl 1973: 30 [24]). Husserl had previously named this "passive belief" the "general thesis of the natural attitude" (Husserl 1983: §30). So the "belief in the certainty" that the world as a whole "is there" precedes not only every judicative activity but also every lived *praxis* (Husserl 1973: 30 [25]).

Furthermore, regarding every object, "*every experience has its own horizon*", namely, its core of immediate effective determinations, and its possible and potential background of new experiences and determinations that are pre-figured in its actual core. Thus, all of the experiences dealing with "the same" correlate are synthetically and open-endedly related. These horizons may be "internal" (referred to the essential properties of the respective types of things and their possible variations (Husserl 1973: 31–32 [27–28]) or "external" (referred to "co-given objects" in the experience of every particular thing). This is "immediately true for the world of simple, sensuous experience, for pure nature", but it also holds "for human and animal subjects, . . .for products of culture, useful things, works of art, and the like" (Husserl 1973: 33–34 [29]). "Everything mundane participates in

[18] German edition: Husserl 1985 [1938]: 38. Henceforth cited with English and [German] page references, respectively.

[19] See the title of §6: 'Experience as Self-evidence of Individual Objects. Theory of Pre-predicative Experience as the First Part of the Genetic Theory of Judgment' (Husserl 1973: 27 [21]).

nature" (Husserl 1973: 34 [29]), asserts Husserl, though this may be misconstrued in a positivistic way. Hence, the *world* is the spatio-temporal, universal and open horizon that encompasses every conceivable reality – the actually known, as well as the unknown though potentially known. It is a horizon of known ("filled") and unknown ("empty") – or still "undetermined" – determinations that the course of experience may eventually fill out. Thus, every particular experience contains a "*transcendence of meaning*" whereby it "is relative to the continuously anticipated potentiality of possible new individual realities" (Husserl 1973: 34 [30]). And on this basis Husserl says that "*the structure of the known and the unknown* is a *fundamental structure of world-consciousness*" (Husserl 1973: 37 [33]).

This is how pre-predicative experience is acquired. The fields of perception that always pertain to conscious life and are apprehended as "unities of a 'possible experience'" are "*possible substrates of cognitive activities*" but are themselves given against a pre-given background that affects us *passively* (Husserl 1973: 37 [34]). To talk about an "object in general" always *presupposes* the *familiarity* with "something in particular". However, meaning-constituting activities do not begin with judgments.

Indeed, pre-predicative *perceptual experiences* are *active* apprehensions of things 'as such and such'. They presuppose, as noted above, the *passive* background of an affective pre-givenness of the world, a *passive* genesis, whence emerge the first associative articulations that passively pre-constitute meaning. However, judgment rests on active pre-predicative experiences, and not directly on passive experiences: "The object of judgment is bound by the fact that it is a something in general, i.e., something identical in the unity of our experience, and hence such that it must be accessible to objective self-evidence within the unity of experience" (Husserl 1973: 39 [36]). The life-world, as horizon, is thus the experiential background of traditional logic, which is also remotely related to modern logics (Husserl 1973: 40 [37]).[20]

The Transcendental Relativity of Evidence to the Life-World and Ultimate Self-Responsibility

Husserl's concepts of *meaning-constitution* and *evidence* are intimately related. Evidence is the constitution of *validated* or *legitimated* meanings, namely, those found in knowledge in a pregnant sense: "Every rightness comes from evidence, therefore from our transcendental subjectivity itself; every imaginable adequation originates as our verification, is our synthesis, has in us its ultimate transcendental basis" (Husserl 1960: 60).[21] Evidence is founded on intuition, which is never an isolated, immediate, or instantaneous experience.

[20] See also: Husserl 1969: §92a, 102.

[21] German edition: Husserl 1950: 95. Henceforth cited with German page reference, which is included in the margins of the translation.

The 'syntheses' to which Husserl refers in this context are twofold: a "synthesis of coincidence" from the noetic viewpoint, and a "synthesis of identification" from the noematic one. These are syntheses that develop within the all-embracing or "universal synthesis of transcendental time", thus in a process of increasing fulfillment (Husserl 1960: §18). Different types of lived experience, whether positional or *quasi*-positional, such as acts of imagining, have different modalities of *making evident*. Furthermore, evidence also embraces position-takings pertaining to practical and evaluative reason, which are also *expressed* or *known* in doxical acts (see Bostar 1987: 159). And, as we have seen, predicative evidence and propositional truths are themselves built on pre-predicative experience, intertwining the different levels and dimensions of intentional life (Husserl 1969: 217).

How is the phenomenological concept of *evidence* related to 'truths in themselves'? Evidence is *essentially related* to the *subject's experiences in the life-world.* Husserl explains that since experience is a *process*, the *continuum* of identifying syntheses that refer to one and the same thing enables us to acquire the idea of a *permanent* being (Husserl 1960: 96). So *transcendence* is the ideal, infinite *correlate of all our* actual and potential *lived experiences*; and *objective being* is the ideal, infinite, actual and potential *correlate* of *every experience belonging to all subjects in general*.

Husserl's concept of evidence therefore contains a deep *relativity*, though that concept is not marked by skepticism, since it does not exclude the idea of 'truth-in-itself'. Accordingly, he asks:

> But what if truth is an *idea*, lying at infinity? . . .What if each and *every* truth about reality [*reale Wahrheit*], whether it be the everyday truth of practical life or the truth of even the most highly developed sciences conceivable, remains involved in *relativities* by virtue of its essence, and normatively relatable to "*regulative ideas*"? . . .What if the relativity of truth and its evidence, and the infinitely distant, ideal, absolute truth, which is beyond all relativity, each has its legitimacy and each demands the other? (Husserl 1969: 245)

In fact, the notions of 'truth in itself' criticised by skeptical relativists and naturalistic psychologists, on the one side, as well as thematised by logical absolutists, on the other, prove to be two sides of the same coin: "mutual bugbears that knock each other down and come to life again like the figures in a Punch and Judy show" (Husserl 1969: 246).

Husserl's concept of evidence implies, then, a 'teleological truth in itself' correlative to a 'transcendental relativism' that necessarily relates it to human *self-responsibility*. The correlates of truth-in-itself and being in-itself are thus teleological, open-ended *syntheses* of experience, of *actual* and *potential* experiences of the same objects along with pre- and co-intentions. The *horizonal* character of evidence points to the *perspectivism* involved in our world experience. The world *transcends* consciousness, of course, though it is itself "*an infinite idea, related to infinities of harmoniously combinable experiences – an idea that is the correlate of the idea of a perfect experiential evidence,* a complete synthesis of possible experiences" (Husserl 1960: 97). Hence, the "idea of truth-in-itself" is "not a dispensable invention", but rather reveals "in an ultimately responsible manner" the *historicity* involved in this "new sort of scientific thinking"; namely, how the

"in-itself" of the "objective world" is given to "the subject and the communities of subjects. . .as the subjectively relative valid world with particular experiential content and as a world which. . .takes on ever new transformations of meaning" (Husserl 1970b: 337 [270–271]), in indefinite, open-ended and ever-renewed asymptotic approaches.

This finally leads us to the self-responsibility of the radical scientific philosopher bent on the resolution of "all conceivable problems in philosophy", in an ongoing teleological process of infinite tasks. Indeed, by questioning back "into the ultimately conceivable presuppositions of knowledge", which are the fertile profundities of experience, the radical scientific philosopher lays bare the ultimate, *responsible* causes for the meaning and validity of being, and the "ultimate foundations" of philosophy.

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Husserl and Heidegger on the Social Dimensions of the Life-World

Tom Nenon

Abstract In this paper, I argue that Husserl's and Heidegger's views on the social embeddedness of human existence in everyday life are actually much closer than is commonly recognised. In contrast to Husserl's emphasis on the reflective individuality of the transcendental ego as a requirement of philosophical methodology, his analyses of everyday life, for instance in his *Ideas* II, show that he is well aware that personal life is essentially embedded in historical, cultural and social frameworks that provide the background for individuals beliefs, attitudes and actions. This parallels in important ways Heidegger's analysis of *Dasein*'s essential character of 'Being-with' and of the '*Man*' (the 'everybody') as the predominant mode of daily life. Both also stress the ability of persons or *Dasein* to step back and critically reflect on these default frameworks, thereby appropriating or modifying them as one's own.

Keywords Husserl • Heidegger • *Dasein* • Transcendental subject • *Das Man* • Personhood • Community • Communities • Social life • *Umwelt* (surrounding world) • Self-consciousness • Authentic existence • Culture

Over the past few decades, there has been a great deal of progress in correcting a caricature of the relationship between Husserl and Heidegger on a whole range of issues, including their positions on social life. For much too long, a contrast was drawn between the isolated transcendental subject described by Husserl, a self-certain subject that never manages to escape the limits of its own constricted consciousness, or does so only by means of all sorts of philosophical contortions that somehow manage to allow the otherwise-isolated transcendental subject to construct impoverished ideas about other isolated subjects crafted in its own image and likeness, on the one hand; and Heidegger's socially and historically situated, practically concerned *Dasein* that only in occasional and almost heroic cases elevates itself above its entrapment in the everyday *Man* to a level of authentic existence that it projects all on its own, on the other.

T. Nenon (✉)
Department of Philosophy, University of Memphis, Memphis, TN, USA
e-mail: tnenon@memphis.edu

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We are beginning to see more clearly just how much both of these images were caricatures, drawn in the case of Husserl to no small extent by Heidegger himself, even though he knew better; but Heidegger also knew that this image was congruent with commonly held views about Husserl, based above all on readings of Husserl's *Ideas* I (Husserl 1983).[1] The recently increased attention to works by Husserl that Heidegger also knew, in particular the *Ideas* II (Husserl 1989c),[2] and the appearance of other works in which his conceptions of the *Umwelt* and the life-world have been fleshed out much more clearly, have helped correct this view.

In Heidegger's own case, the publication of the early lecture courses leading up to *Being and Time* has shown both that Husserl's real positions at the time were much better known and appreciated by Heidegger in the early 1920s than readings of *Being and Time* by itself would suggest; and that their views on social life and its relationship to individual self-conscious subjects – whatever we call them and however we think about them – were much closer at that time than the received view about the two of them would suggest (Heidegger 1962).[3] I would like to try to take this claim a little further to show their commonalities during this period, and also to show how a few fundamental differences still remain. In doing so, I will try to present a reading of the famous sections §§25–27 of *Sein und Zeit*, on *Mitsein* and *Mitdasein*, that is significantly different not only from the standard literature but also from my own previous readings of those subjects; a new reading that depends strongly on the claim that Heidegger is indeed drawing on some of the same insights that are guiding Husserl during this period.

My first, perhaps controversial, claim about why what for a while had been the standard reading of Husserl on communal and social life was misleading, is that it is based on the assumption that one can read from what Husserl describes as the necessary steps for the *philosophical* analysis of any phenomenon whatsoever (including, for example, social life) his views about that phenomenon and its structures; or even of the subject and its relationship to other persons and social entities. Husserl's philosophical project famously involves, for instance, phenomenological reduction in which the constituted phenomenon is reduced to the correlate of constituting acts of pure subjectivity; so that it can appear that what precedes any actual commitment to the phenomenon, in this case social life and the social structure of our daily lives, is somehow antecedent to our individual lives as pure subjects. But when we are asking about the social structure of the *Umwelt* (or later the *Lebenswelt*) and how in our daily lives, persons as individuals are related to them, that is a very different question from the question of what methodological steps must be taken to assure that the philosophical analysis is undertaken as a *phenomenological* philosophical undertaking instead of, for example, an empirical investigation. In the former case, we are asking what it is that must be explained by means of a phenomenological analysis as a kind philosophical reconstruction; and in the latter case we are asking how a philosopher as phenomenologist must proceed

[1] German edition: Husserl 1976.

[2] German edition: Husserl 1952.

[3] German edition: Heidegger 1977.

in order to assure that this is a phenomenological and not an empirical investigation. Those are two very importantly different questions. The former describes a complex whole and shows how all of its elements cannot properly be understood apart from the way they interact; the latter begins with some very simple and basic elements as moments – not as independent, but as distinguishable elements – and tries to show how they each play a specific role in this complex interaction to constitute the complex whole of the structure of the *Umwelt* or the life-world in which we live our daily lives. Of course, what critics have correctly noted is that these isolated moments do not appear on their own in our lived experience, but are only elements of a concrete whole in our daily lives, and that they precede philosophical reflection about them. Or to put it much more concretely: describing the essential structures of the life-world is a different project than the reflection upon the proper method that must be used to make sure that this description is a philosophical analysis of the various moments or relatively simpler elements that together in their interaction can be shown to be necessary elements for there to be anything like the life-world as we live and experience it. Much of what has passed for Husserl's view on community and social life has been based on the latter project, whose themes dominate in the essays published during his lifetime and those (like the *Cartesian Meditations*) that gained the most attention soon afterwards (Husserl 1960).[4] They clearly are oriented on the project of attaining the standpoint of a pure transcendental subject, prior to the philosophical description and analysis of the various phenomena that present themselves to consciousness. Other writings such as the *Ideas* II and, more recently, Volume XXXIX of the *Husserliana* represent his contributions to the former project, where his primary interest is not phenomenological method but a concrete description and phenomenological analysis of the phenomena at interest there (Husserl 1989c, 2008). Therefore, my comments about Husserl's views on social and community life will be based on those writings.

In the *Ideas* II, Husserl makes very clear that in our daily lives we interact as persons, as subjects of what he calls an '*Umwelt*', a world in which things present themselves to us not only in terms of their perceptual properties but also and primarily in terms of their practical relevance to the things we value (Husserl 1989c). Most of those things are not persons; they are use-objects, or in some cases, artworks, that have relevance for various kinds of priorities and projects that we as persons have. They show up as fostering or obstructing those priorities, those values, and doing so to a greater or lesser degree. Some other things in the *Umwelt* show up for us not only in terms of the way that they advance or fail to advance the projects and priorities that we as persons have, but also as things that have priorities of their own; have intentional lives with their own beliefs, desires and interests. Some of the things that have such intentional states do not necessarily have projects in the full sense that persons do. Those would be the animals that possess some sort of consciousness; i.e. that we take to have mental states such as beliefs and desires, but not necessarily second-order mental states, so we do not attribute personhood to

[4] German edition: Husserl 1950.

them. Persons, by contrast, possess the ability to become aware of many of these first-order mental states, as such. They possess self-consciousness as the ability for them to become aware of many of their own beliefs, values and ends, and to reflect on them; i.e. to develop beliefs and feelings about them that can have an effect on their own first-order, more-or-less immediate beliefs and feelings, and thereby sometimes even have an influence on or change them. We typically assume, and perhaps have good reason to believe, that many human beings belong to the latter class of beings as persons and some or all non-human animals do not.

Since much of even the *Ideas* II is written from the perspective of the individual person and stresses the capacities of the individual subject as a person for such reflection, even the *Ideas* II can seem to suggest that Husserl takes as the starting point for his analysis of social life the idea of independent subjects who completely on their own construct a world that happens to include some other subjects, who also construct worlds of their own that must subsequently somehow be mediated and reconciled with each other – but this mediation being always on the terms of a strictly first-person oriented subject (Husserl 1989c). However, a brief but very significant passage confirms that this is not Husserl's view. Even before Husserl broaches the topic of whether the individual or the community, the larger social unit to which the individual belongs, has precedence, he has made clear that in our daily life we do not just confront discrete individual human beings, but rather a genuine and important part of our daily lives is the recognition of and involvement in what he calls "higher-order personalities": (Husserl 1952: 182, 243, see also 196–197) things like families, communities of all kinds, and states – social organisations that have a standing or their own and genuine existence, with predicates that do and do not apply to them on their own. Of course, these higher-order personalities are made up of or founded in individual human beings, but – consistent with his overall project of a non-reductive analysis of foundational relationships – he hints at the way that these can be traced back to the way these higher-order entities are related to the consciousness of concrete individuals. Nevertheless, his analyses also show they have a standing on their own that is not reducible to mere aggregates of individuals.

Even more significant, however, is that the *Umwelt* as the place where all of us live our daily lives not only contains higher-order personalities, communities, but is also essentially social or communal in nature. Even though it may indeed make sense to speak of an individual *Umwelt*, this is still always only against the background of a commonly understood *Umwelt* which is in principle accessible to any member of the communities of which the individual is a member:

> The *Umwelt* that is constituted in the experience of others, in mutual understanding and agreement with them, we characterize as the *communicative Umwelt*. It is by its very nature relative to persons who find themselves within it and find it as what confronts them. That applies to it as well as the 'egoistic *Umwelt*' of the person thought of as singular, i.e. of the person thought of abstractly in its relationship to its *Umwelt* so that it does not include any relations of agreement with other persons (no social groups). (Husserl 1989c: 189)[5]

[5] Cited with German page reference, which is included in the margins of the translation.

It is important to note that Husserl indeed recognises something like an individual or egoistic *Umwelt*, but that he also makes clear that this notion involves "abstractive processes" from the social world in which we actually live (Husserl 1989c: 189).

He also stresses the historical nature of such communities and the way that we develop our own identities and priorities against the backdrop of the communities in which we live. He notes that another aspect of the historical nature of the life-world and persons within it is that individual human beings always find themselves as parts of communities, literally groups who share certain commonly accepted beliefs, values and ends. Much of what I believe, value, will and do is attributable not just to my own personal history, but to the experiences of the communities in which I was raised and in which I find myself. Husserl lists family as a basic form of community; but also lists communities that have a geographic determinacy, a homeland or territory such as a city, a region, or a nation, as well as communities such as certain professions or interest groups that share specific beliefs, values and ends but are not geographically defined. In any case, though, the world is always already pre-given to me before I ever undertake active reflection on the set of sedimented theoretical, evaluative and practical position-takings that the specific community shares and that define it as a community.

These communities, then, are cultures in at least two senses: firstly, they share not only beliefs, but also certain commonly accepted values and practices that define them; and secondly, these shared beliefs, values and practices are the result of specific historical experiences and responses to them, that shape those communities and become part of the sedimented backdrop for all further experiences and actively personal position-takings of the communities as a whole, and of the members of those communities.

Each community therefore also has its own *Umwelt* or surrounding world; not just as the specific kinds of realities that happen to exist in the geographic territory in which its members find themselves, but as a set of common understandings of the significance of those realities, their values and their uses.[6] The notion of *Umwelt* involves not only relative spatial and temporal orientations, but predicates related to normal human sensing, and also to the normal practices and common values of each specific community – i.e. its culture.

Of course, not everyone belongs to the same communities or cultures, which is why in later manuscripts Husserl notes that it makes sense to talk of home worlds and alien worlds (*Heimwelten und Fremdwelten*). The *Heimwelt* is the *Umwelt* in which I know and understand the shared beliefs, values and practices of this community, which provides the default beliefs, values and practices of that culture for me. The *Fremdwelt* is the culture with which I am not familiar or whose beliefs,

[6] See, for instance: "The world becomes a human world, divided into communities, the communities [each] related to a historical tradition that belongs essentially to it, in which a common culture arose that is accessible to every one of them and as a whole is identifiable, commonly valid for all" (Husserl 1952: 32).

values and practices I do not share. Part of what it means to say that I am not a member of that group is to say that its history is not part of my own; whereas part of what it means to be a member of one's own community is that its shared history is part of my own history. That does not necessarily mean that I cannot reflect upon it, take a stance towards it, and perhaps modify or reject some parts of it, just as my own personal history does not by itself fully determine my future beliefs, values and actions as a person; since as a person I can reflect on my own specific beliefs, values and ends that I may hold as a result of my shared cultural background and my own personal history, assess them critically for their justification and appropriateness, and as a result develop different evaluative stances and feelings towards them that can change my own individual feelings and actions.

The realities I encounter in the *Umwelt* are not mere things whose perceptual properties I know about, but rather entities like houses, cars or carriages, whose uses I understand and whose values I also comprehend. As a member of a community I understand these commonly shared uses and values even if I am personally indifferent to them.

Intercultural differences, then, are not simply or even primarily a matter of different perceptual encounters, in the narrow sense of disagreements about the perceptual features in the narrow sense of the realities we might each encounter. It is not usually a matter of one group seeing yellow and another green, or one group seeing something as 3 cm long that another group perceives as 2 m long. Groups occasionally do disagree about which events actually ever happened and how they happened, but normally those differences do not stem from differing perceptual abilities of their bodies; rather from having different interests and histories that lead to different interpretations of what happened, or make it convenient or important to highlight and remember, or downplay and forget, those same events.

It is important to note here that Husserl's phenomenological descriptions of sociality as a dimension of the life-world are intended to identify structures that apply to any society. This is something distinct from his comments in his 1920–1924 lectures on ethics, where he talks about the possibility of a community of love as an ethical ideal. In a more descriptive vein, his analyses of social life also point to an ethical dimension of social life precisely through the possibility and, as he argues for instance in the *Kaizo* articles[7] and at the end of the *Krisis* (Husserl 1970),[8] even the responsibility for critical reflection upon the assumptions governing social life, especially those governing those communities of which one is a member. These possibilities obtain for all communities and for all of the members of them.

In the ethics lectures, however, Husserl is also very clear that notions of individual reflection and responsibility are necessarily always undertaken against the backdrop of sedimented beliefs, values and practices as habits that precede this reflection and thereby can become the object of such reflection. In the ethics

[7] The 'Kaizo' articles were a series of articles Husserl composed in 1922 and 1923 for publication in the Japanese journal *Kaizo*. See Husserl 1989b: 3–121 ('*Fünf Aufsätze über Erneuerung*').

[8] German edition: Husserl 1954.

lectures and in the *Kaizo* articles he does not stress the social and historical dimension of those sedimentations; but taken together with what he says in the *Ideas* II about the priority of the social or common *Umwelt* and what he later says about the responsibility of the individual to reflect on the shared historical and cultural legacy that each of us inherits, it is clear that what he says in the ethics lectures about individual self-responsibility always involves becoming aware of the communal legacy that he or she has inherited, and the possibility of taking responsibility for that legacy in his or her own life, and perhaps even shaping it in dialogue with others (Husserl 1989c). This could be seen as akin to Heidegger's call for the active appropriation, the de-struction, of the historical context in order to be able to take a more active and responsible stance towards it and to avoid remaining a mere captive to it.

In this regard Husserl is much closer to Heidegger than the common story about the two of them would seem to indicate. Just as Husserl believes that the default position for human valuing and acting prior to explicit critical reflection or some specific individual historical events that might call the common wisdom into question is the historically evolved set of beliefs, values and practices that in each case I find myself confronting before I ever consciously think about them, Heidegger views fallenness into the *Man*, with its common sayings and ways of acting, as an *Existentiale* that is always the backdrop for any possible authentic existence. Authentic existence as a mode of being-a-self does, of course, involve resolutely facing death and its isolating power, on the part of an individual *Dasein* who through the call of conscience becomes aware that it is up to each particular (*jemeiniges*) *Dasein* itself to decide in what way he or she will respond to this otherwise unquestioned backdrop for acting. However, part of that resolute awareness is also that it can do so only as thrown into a specific situation (Heidegger 1962: §§25–27). This means, I would suggest, that authentic existence can only take place against the historical and cultural backdrop in which each of us always finds ourselves, either mindlessly in inauthentic existence or mindfully in authentic existence. So what Husserl calls "genuinely egoic acts" (Husserl 1952: 212–215, 275–280) and what Heidegger calls "authentic existence" (Heidegger 1977: 129, 305 ff). in which individual persons confront the sedimented beliefs, values and practices that have constituted their lives until now, essentially includes a social dimension.

Another common feature of both is that – contrary to the common picture of Husserl that has him oriented almost exclusively on theoretical knowledge as the primary mode of access to objects within the world and as the primary mode of intentionality – he is very clear, in the *Ideas* II and in his later analyses of the life-world, that our intentional directedness towards the things we encounter in our daily lives is evaluative/practical rather than primarily theoretical. In fact, he is every bit as emphatic in those writings that the strictly theoretical is an abstraction; a non-independent moment of the intentional life of persons whose primarily concerns are their practical interests.

I should also note that I see a further parallel in both: that as descriptive phenomenologists, neither of them claims that one's orientation towards others is

necessarily moral or ethical, 'concernful' in the everyday sense. Husserl is very well aware that shared values can be unethical or immoral. In his lectures on ethics and in the *Kaizo* lectures and the *Crisis*, he tries to show how persons as rational agents have a duty to reflect on their own individual and social beliefs and practices and to bring them in line with their ethical and moral duties; but he does not believe that the social dimension as a basic structure of the *Umwelt* means that the default mode of human existence in communities is necessarily a moral or just order.[9] Nor do I believe, contrary to what some serious scholars such as Ute Guzzoni and Zeljko Loparić have claimed about *Fürsorge* as an essential comportment of our *Mitsein* in daily life, that Heidegger wants to or could justify the claim that human beings and human societies have an essential tendency to comport themselves morally and concernfully (in an ethical sense) towards others.[10] When he says that *Fürsorge* represents an essential comportment of our existence, he means this in a neutral way; I take him seriously and believe that the only accurate observation about *Mitsein* as an *Existentiale* that he can defend is that it is an essential feature of people as social beings that they are aware of and concerned *about* what others think about them and how they are generally expected to act towards and interact with them, but not that they necessarily care for or about those people and their welfare as such. In fact, this could explain why people can and so often do feel social pressure to treat many others as subordinates or in a manipulative or disdainful way; because that is what they know, as members of the specific group they belong to, as how one is supposed to treat these kinds of people. This is the kind of social norm that Husserl in his ethics lectures is trying to show as something that one can and should reflect upon and change as part of one's ethical duties.

This is the place where the fundamental difference between Husserl and Heidegger emerges. The difference is not between an isolated transcendental subject with a strictly theoretical stance towards the objects of its intentional life, on the one hand, and a practically engaged and socially situated *Dasein*, on the other. And there is much more in common between what Husserl calls "authentically egoic acts" of persons and Heidegger's descriptions of authentic existence than might seem to be the case at first glance. However, there is a fundamental difference between the two when one realises that, for Husserl, the nature of persons as *geistige Wesen* with the capacities of practical and evaluative reason means that these egoic acts should and must be placed under the constraints of responsible action subject to reason, as a universal capacity of human beings that makes some fundamental principles of human action and interaction ethically binding for all human beings; and that Husserl believes that ethical position-takings are subject to confirmation and disconfirmation through intuitions and experiences in a way that parallels the possibility of theoretical position-takings, beliefs, being confirmed or disconfirmed through intuitions. Heidegger explicitly rejects such a notion of practical reason modelled on a parallel to theoretical reason as an adequate measure

[9] Husserl 1989a.

[10] See Guzzoni 1990; Loparić 2004.

for the truth of practical life; so that for him authentic existence is aware that there are no such grounds to which *Dasein* can appeal to give meaning to its life and provide a measure of, or even corrective, for how it should respond to the historically evolved norms and practices of the communities in which it finds itself. There are, of course, some other important and basic differences; for instance, that Heidegger stresses much more clearly and emphatically that authentic *Dasein* is focused not on any specific action but on the ultimate priority for *Dasein*, its *Worumwillen*, that underlies and guides any other questions about the significance or insignificance of what he terms possibilities of *Dasein*, its specific subordinate priorities and actions; and Heidegger provides brief but powerful indications of the essential finitude and limitations involved in *Dasein*'s projection of an ultimate priority that would provide meaningfulness for its life. All of these are very genuine and important differences but all of them are also quite different from the difference between the two as it is commonly portrayed, in what I hope will become a less-and-less common account of the issues that really separate Husserl and Heidegger and their views on social life.

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Part IV
The Continued Relevance of the Phenomenological Critique

Formalisation and Responsibility

James Mensch

Abstract If you ask a scientist for the actual meaning of his terms – say, of an electron or a quark – he is more than likely to write an equation. An electron, he will insist, is this formula for the probability–density of its position. Similarly, if you want to evaluate an investment in finance, you use the formula for its net present value, discounting the income it generates by the opportunity costs of its capital. Such formal procedures are, in fact, omnipresent. From the algorithms determining market investments to the reduction of much of the social sciences to statistical analyses, both our claims and our decisions exhibit the formalisation that marks our age. The questions I raise concern the issue of responsibility in this context. How is it to be understood? To whom or what do we respond? I argue that our difficulties answering such questions point to the transformation of the notion of responsibility that formalism occasions. Formalisation abstracts from the embodied particularity of being, thereby abstracting from both the individual that bears responsibility and the individuals to whom he or she responds.

Keywords Formalisation • Responsibility • Cartesian rationality • Objective knowledge

If you ask a scientist for the actual meaning of his terms – say, of an electron or a quark – he is more than likely to write an equation. An electron, he will insist, is this formula for the probability–density of its position. Similarly, if you want to evaluate an investment in finance, you use the formula for its net present value, discounting the income it generates by the opportunity costs of its capital. Such formal procedures are, in fact, omnipresent. From the algorithms determining market investments to the reduction of much of the social sciences to statistical analyses, both our claims and our decisions exhibit the formalisation that seems to mark our age. The question I would like to raise concerns the question of responsibility in this context. How is it to be understood? To whom or what do we respond? During the Vietnam War, US bombing missions were set by a computer program that, based on field

J. Mensch (✉)
Faculty of Humanities, Charles University, Prague, Czech Republic
e-mail: james.mensch@gmail.com

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reports, calculated the probability of the Vietcong's being in a particular location at a particular time. Such missions, with their use of napalm, were responsible for the destruction of much of the countryside. Who or what was responsible for this: the computer, the writers of its algorithms, the pilots flying the missions, the operations research analysts that worked to 'rationalise' these missions? Our difficulties in answering this question point to the transformation in the notion of responsibility that formalism brings. In this paper, I am first going to discuss the rise of formalism and then speak about this transformation.

Plato and Aristotle

To understand formalisation, we must return to the original conception of the form. Plato's word for this is *eidos*, which is often translated as *idea*. He considers the ideas or forms to be supremely actual because they completely embody what it means to be, which is to be self-identical. As Plato writes, "the very essence of to be" (the *autē hē ousia. . .tou einai*) is to be "always in the same manner in relation to the same things". This is to be "unchanging" and, thus, to remain the same with oneself. The forms, he writes – "beauty itself, equality itself, and every itself" – are called "being" (*to on*) because they "do not admit of any change whatsoever" (Plato 1967: 78d, my translation). His basic insight is that change is always change of something, something that remains constant throughout the change. This means that a real loss of self-identity is not change, but rather annihilation pure and simple. To continue to be, a being must continue to have a level of identity with itself, and the form is what expresses this. Aristotle agrees. For Aristotle, however, the form is taken as informing some underlying material. The form distinguishes the material, making it be a definite thing. Viewed organically, the form is both a formal and final cause of a living thing. As a final cause, it is what the thing's organic development attempts to realise. It is, for example, the full-grown tree dropping its seeds for the next generation. As a formal cause, it can be compared to the DNA that informs the tree's growth. One can also think of it as the architect's blueprints, which the process of building realises. As a formal cause, it is present in the blueprints; as a final cause, it is present in the shape of the concrete edifice.

For both Plato and Aristotle the form is something visible. Thus, the word Plato chooses for the form, *eidos*, is derived from *eidon*, the second aorist of the verb *eidein,* which means 'to perceive'. The *eidos*, then, is the 'look' of something. Plato assumes that we can, somehow, see 'beauty itself' through beautiful objects, 'equality itself' through equal objects, and so on. For Aristotle, the visibility of the form comes from the fact that the form sets the thing's essence – in Greek, its "what it was to be".[1] Retrospectively regarded, the form for living beings is what the organism 'was to be', given its growth and pattern of development. As such, it is

[1] Aristotle's term for *essence*, which he coined, is: *to ti hēn einai*, which means literally, *what it was to be*. In Latin, it was translated as *quod quid erat esse*, which was shortened to *quiddity*.

what had to appear at the end of its natural course of development – this being, for example, the fully grown tree that is dropping the seeds for the next generation of trees. Plato and Aristotle also agree that the form is unchanging. For Aristotle, neither the formal cause nor the goal set by this changes during natural development. As designating a thing's underlying self-identity, Plato's *eidos* is also unchanging. Finally, they both take the form or *eidos* as the reality of a thing. It is what gives an entity its being as something definite.

To speak of responsibility in this context is to take it as responsibility to the form. For Plato, this is our responsibility to our underlying self-identity as human beings. As Socrates advises Callicles in the *Gorgias*, Callicles's very selfhood is at issue in their debate about the proper life to lead. Failure to engage in it means that Callicles "will remain at variance with himself his whole life long". As for himself, Socrates adds, "it would be better for me…that the mass of mankind should disagree with me and contradict me than that I, a single individual, should be out of harmony with myself and contradict myself" (Plato 1971: 76). Aristotle, in his *Nicomachean Ethics,* agrees with this. The point of a moral life is to find pleasure in the proper things. We all follow pleasure, and pleasures increase the activities we engage in. The bad man, however, finds that his pleasures contradict each other. They lead him to conflicting goals and thus to act at cross-purposes with himself. Ultimately, then, they undermine the activities that actualise 'what he was to be' as a human being. To be a moral human being is to discover this and to respond to it.

Descartes

With Descartes, we enter a very different world; one where the form is replaced by the formula. As a mathematician, Descartes is famous for having invented analytic geometry. Expressing the various conic figures as algebraic formulae, he shows how easy it is to algebraically prove the propositions Euclid so laboriously demonstrated. For Euclid, a circle was a definite shape; namely a figure enclosed by a single line, where all the lines from a point within the figure meeting this single line can be equal.[2] In analytic geometry, by contrast, the circle is a formula relating five variables: two for the coordinates of its centre, two for the coordinates of a point on its circumference, and one for the distance between these two points. If we regarded only this formula, we would not know that it referred to a circle. In fact, reference to a visual figure is not at all required in the algebraic manipulations that prove its various properties.

Descartes, of course, is also famous for using his mathematics to express physical laws; for example, that of the conservation of momentum. To see how the formulae he uses come to be taken as the reality of the processes they express, we have to turn to his *Meditations*, with its deep mistrust of his senses. Descartes

[2] See Euclid, *Elements*, Book I, definition 15.

writes there that he sees "nothing to make it impossible that I was so constructed by nature that I should be mistaken even in the things which seem to me most true" (Descartes 1990: 73). Thus, it seems most true "that in an object which is hot there is some quality similar to my idea of heat; that in a white, or black, or green object there is the same whiteness, or blackness, or greenness which I perceive; that in a bitter or sweet object there is the same taste or the same flavor, and so on for the other senses" (Descartes 1990: 77). None of this, however, is true. These apparent qualities have their origin, not in the objects apprehended, but in the peculiar structure of our human senses. The purpose of these senses, however, is not truth, but rather survival. In Descartes's words, his bodily senses are there "only to indicate to my mind which objects are useful or harmful" to his embodied state (Descartes 1990: 79). As such, the information they provide is strictly relative to it. The question this leaves him with is: how can we get beyond this relativity to apprehend what pertains to the objects themselves?

The answer Descartes arrives at gives the formula the same ontological force that the form had for Plato and Aristotle. It makes it the reality of the processes and objects it expresses. According to Descartes, "everything which I conceive clearly and distinctly as occurring in [corporal objects] – that is to say, everything, generally speaking, which is discussed in pure mathematics or geometry – does in truth occur in them" (Descartes 1990: 76). This means that we can overcome the relativity of our senses by focusing on the numerable qualities of bodies. All our senses have to do is to provide us with countable objects. Thus, no matter what my senses are, as long as they allow me to distinguish elements, I can number them. What I do number pertains to the objects themselves; so do the formulae relating what I number.

One way to put this position is in terms of the distinction between primary and secondary qualities. The primary qualities of bodies are their numerically measurable aspects. As measurable, they have what can be called a 'third-person' objectivity. Thus, given common units of measurement, everyone can agree on the dimensions of an object, its velocity, mass, temperature, and so on. Moreover, the mathematically describable relations of causality, such as the familiar 'force equals mass times acceleration', can apply to such qualities. Secondary qualities, by contrast, consist of the tastes, textures, colours, smells and sounds of the world. They are the aspects that our senses convey. They are as private and subjective as the flesh that embodies us. Just as no one can eat for you, sleep for you or perform any of a host of bodily functions for you, so they also cannot taste, touch, smell, hear or see for you. What one reports in this area is not objective, but irremediably 'first-person' and subjective.

Since these sensuous qualities are not numerable, we cannot apply the mathematical formulae of causality directly to them. To relate them to reality one must link them to what can be numbered. For Descartes, this involves a translation of the changes in the sensuous qualities of bodies – their "colors, odors, tastes, sounds, heat, hardness, and so on" – into the "corresponding variations" in their numerical aspects. Thus, for a Cartesian, a change in sound is translated into a change in the numerical frequency of the sound wave. Of course, the change in the sound wave is

actually quite different from the change in heard sound, which is experienced as a change in pitch. As Descartes admits, "these variations are not really similar to the perceptions" (Descartes 1990: 77). This, however, is to be expected. It is a function of our proceeding beyond what is specific to our embodied sensibility, to what pertains to the object in itself. This consists of its numerical aspects. More precisely, it consists of the formulae relating these aspects as the object interacts with other objects.

Consequences of Cartesianism

Descartes's method has a number of important consequences. There is, first of all, its transformation of what we understand by the observing and judging subject. Since all that is required of the observer is the ability to count and measure, each properly trained observer is replaceable by any other who possesses the proper measuring devices. Counting, according to Descartes, proceeds by an "inspection by the mind" that abstracts from the special qualities of our bodily senses.[3] This abstraction from our embodied individuality, which is the hallmark of scientific observation, enacts on a practical level Descartes's famous separation of the mind from the body. The same holds for the judgments that relate what we measure through mathematical formulae. Since none of the features that specify our embodiment, be they those of our race, gender, birth or personal history, enter into such judgments, they too evince the subject's separation from the embodiment that particularises him. Stripped of their particularity, subjects become mutually replaceable.

A concrete expression of such replaceability occurs in the formalisation of business and administrative systems. Formalisation, in this context, is measured by the degree that rules and procedures are followed by members of an organisation. The higher the degree of formalisation, the more their activities are specified by such rules. On the one hand, the result is an increase in the 'rationalisation' of procedures. They become standardised and, hence, highly predictable. Such predictability increases the organisation's ability to monitor and, hence, control its members. On the other hand, the result is the ease in replacing an employee by an equivalently trained individual. Formal structures are norms and behaviours that exist regardless of who performs them. Following them, the employee's functions become so routine and regular that he is easily replaced without disturbing the organisation's functioning.

The same evacuation of the individual is found in the most disparate of domains. The public space defined by Cartesian rationality, for example, also ignores the particularities of embodiment. It, too, becomes abstract and universal. It substitutes

[3] The phrase is used by Descartes to describe the apprehension of a piece of wax, all of whose sensuous qualities change as it is heated. (Descartes 1990: 30–31).

the view from nowhere for the particular gaze of the embodied individual. The emptiness of certain forms of modern architecture, with their utilitarian geometry, absence of detail and lack of points of orientation exemplifies this space. Broadly speaking, what such space exhibits is the replacement of the 'first-person', subjectively oriented viewpoint by the impersonal 'third-person', objective perspective. The same procedure appears in analytic philosophy, with its linguistic turn. Those who take this turn assert that the basic task of philosophy is to analyse the structure of thought, sharply distinguishing this from our private and subjective acts of thinking. Rather than engaging in any first-person analysis, they assert that the only way to analyse the structure of thinking is by analysing its linguistic expression. For them, the philosophy of language *is* the foundation of philosophy.[4] Formalisation does not appear only in this linguistic turn. It also shows itself in analytic philosophy's preference for substituting letters for references and employing logical formulae to state its propositions. Such philosophy is not unique in this: a similar turn to the 'third-person' perspective – a similar preference for the use of formulae to express conclusions – appears in almost all of the social sciences. They, too, take the 'hard' sciences – i.e. the sciences, like physics, that strictly follow the Cartesian procedure – as their model.

The most striking consequence of this turn to the 'third-person' perspective is the devaluation of consciousness. Consciousness, considered as the concrete tissue of our subjective experience, is not numerable. As such, it has the same ontological status as the secondary qualities provided by our senses. It has to be reduced to the measurable primary qualities of the world. Daniel Dennett, an analytic philosopher of mind, gives a version of this view when he writes that such secondary qualities or "qualia" are "mere complexes of mechanically accomplished dispositions to react" (Dennett 1991: 386). He adds: "A philosopher's zombie, you will recall, is behaviorally indistinguishable from a normal human being, but is not conscious" (Dennett 1991: 405). Drawing the obvious conclusion, he writes: "We're all zombies. Nobody is conscious" (Dennett 1991: 406). We cannot be, given the irreality of the elements composing consciousness.

To see why formalisation inevitably leads to this conclusion, we can turn to Kant's distinction between inner and outer sense. According to Kant, "Time cannot be outwardly intuited, any more than space can be intuited as something in us" (Kant 2001: B37, my translation). Thus, when I outwardly regard the world, it is always now. I cannot sensuously see the future nor view the past. To grasp the past or the future, I have to turn inward and remember or anticipate. Similarly, when I inwardly regard my own consciousness, space disappears. It is impossible for me to assign a definite size to my inner representation of a given object. The representation occupies more or less of my visual field depending upon my external spatial distance from this object. Given this, we have to say that the external world presented by outer sense has no time and the internal world that we access through

[4] These formulations occur in Han-Johann Glock's online review of Michael Dummett's *The Nature and Future of Philosophy* (Glock 2012).

reflection has no measurable space. The third-person perspective that focuses on the outer world thus drains time from what it regards. As such, it cannot but abstract from consciousness. A sign of this appears in the mathematical and logical formulae that science employs. Such formulae can include time as a variable, but the relations they specify are instantaneous. To take the simplest example: to find out how far one has travelled, one can employ the formula, 'distance equals velocity times time'. Thus, having travelled at 100 km per hour for 1 h, the formula predicts that one will have travelled 100 km. One can work this formula for any time one chooses. Yet at whatever time one does choose, it presents a snapshot. It presents the way the world will be outwardly intuited at that point. In limiting us to a given 'now-point', it does not just drain time from the world, it also excludes the consciousness that subjectively regards it. This conclusion should not surprise us. The exclusion of consciousness was already implicit in the atemporal nature of the form in Plato and Aristotle. Whenever either philosopher talked about the soul's contemplative regard of such forms, he assumed that the soul, at the moment of such regard, escaped from time. But this escape is its loss of what makes it a particular consciousness.

Critiques of Formalisation

As Husserl and Patočka point out, this shift in the weight of being from the secondary to the primary qualities involves an ontologisation of the idealities of mathematics. When we take our mathematical formulae as the reality of the processes they describe, we forget, as Husserl writes, that "mathematical-physical nature. . .the nature of the exact natural sciences is not the nature that we actually experience". What we actually experience is the nature "of the life-world", the world of our immediate, first-person experiences. The nature of the exact sciences is, by contrast, "a hypothetical idea arising from idealization, one substituted for the actually viewed nature" (Husserl 1954: 224). Essentially, the error here is that of substituting the description for the thing described. Just as the law of gravitation is not the gravitating bodies whose relations it describes, so a mathematical relation is not itself the things it relates. Thus, Newton's law for the force between two bodies, $F = \gamma m_1 m_2 / d^2$, when solved, gives us a number. Force, however, is not itself a number: it is what is numbered.

Beyond this, the elimination of consciousness by science undermines its own results: they lose their experiential, empirical basis. This point can be put in terms of Cartesian doubt. Descartes, as I cited him above, doubts "that in an object which is hot there is some quality similar to my idea of heat; that in a white, or black, or green object there is the same whiteness, or blackness, or greenness which I perceive; that in a bitter or sweet object there is the same taste or the same flavor, and so on for the other senses". Strictly speaking, this doubt concerns the referents of his experiences. He doubts whether anything corresponds to them. He does not,

however, doubt that he has such experiences. Were a scientist to doubt the reality of his experience, he would rob his science of any empirical basis.

Why, then, do we assert that what is real are the referents rather than our experiences of them? As Heidegger and Patočka point out, the answer can be found in the fact that such referents, when reduced to their primary qualities, permit description in mathematical, causal terms. The causal relations we draw regarding them allow us to predict and, hence, control the interactions of the objects referred to. The focus, here, is on power. Power is the sign of reality: I take my ability to causally manipulate things as a sign that I grasp them as they 'really' are. Correspondingly, I grasp myself in terms of this exercise of power. If we turn this into a metaphysics of the will, then according to Patočka, we do not just assume "the thoroughgoing predictability and control of beings"; we also take the will "as the will that wills itself" in predicting and controlling beings. Its ultimate goal is our ability to predict and control. It wills the will that does this. All this reflects on the status of the will itself. Through its willing our technical manipulations, the will makes things come to be and, hence, appear. Metaphysically regarded, according to Patočka, it takes up the position of "the being of beings" and "the ground of appearing".[5]

Responsibility

What is responsibility in this context? What can such a subject be said to respond to as "the will that wills itself"? If we speak of responsibility in the context of formalisation, then the most we can affirm is responsibility to the formal procedures of a given area. In science, this is a responsibility to proceed according to the scientific method. In the business and administrative context, the responsibility is to the rules that govern the relations in the organisation. One follows the procedures set down for one. Enacting them, one acts 'professionally'. Parallel examples can be drawn from widely dispersed areas. One can speak of responsibility to the rules of the marketplace, to those of a news organisation, and so on. What is missing here is responsibility to the other person as a singular individual: this is the individual

[5] As Patočka expresses this: "Ist aber der Wille als Sein des Seienden gefaßt, und allem zuvor als der Wille, der sich selber will, dann: ist man heillos jener Identifikation verfallen, die sich in der durchgängigen Berechenbarkeit und Beherrschbarkeit des Seienden äußert und keine andere Art des Verhaltens zum Seienden kennt. Ist dem so, dann wundert man sich nicht mehr, das Wesen der technischen Welt bei Denkern ausgesprochen zu finden, welche ihr auf den ersten Blick fern stehen; das Wesen der Technik kann nur und muß nämlich metaphysisch ausgedrückt werden. Ja, die technische Welt treibt diese metaphysische Identifikation und die Vergessenheit der Differenz sogar auf die Spitze. Zugleich damit muß der Mensch der technischen Epoche sich selbst als den tiefen Ursprung, als Grund der Erscheinung, als den Willen, der sich selber will und als Subjektivität in diesem Sinne absolut setzt, auffassen: Die Umkehrung der Metaphysik, welche mit Weltverdopplung anfing, um in der Verneinung aller Jenseitigkeiten zu gipfeln, ist selbst die letzte und höchste Gestalt der Metaphysik" (Patočka 1991: 335–336).

particularised by his or her embodiment. Having abstracted from this embodiment, Cartesian rationality has no place for it. As I have noted, the point of the formal procedures it relies on is to make all observers equivalent. Properly speaking, there are no others once we abstract them from the embodiment that particularises them. What we are left with is only an abstract 'ideal' observer.

This lack of genuine others does not just pose difficulties for the conception of objective knowledge – which is supposed to be the same for myself *and my others*. It also affects how we respond to the world. To respond is to reply – as in responding to a question. The basic question put to us by the world is: why are things the way they are? Why, in other words, do things show themselves this way rather than another way? What we are asking for here is a reason for the way things are. Now, to raise this question, we must see them as capable of being another way; that is, as not necessarily being the way that they presently show themselves. Where does this sense of their contingency come from? It comes, I believe, from different points of view; from the alternative perspectives we encounter that call our own into question. Such perspectives are those of our embodied others. Their very embodiment gives them that irremediable alterity that marks the first-person apprehension of the world. Such alterity indicates that the world we apprehend through our actions and interpretations could have been other. When our apprehensions and interpretations are confronted with those of another person, both lose their sense of being inherently necessary. With the sense of their contingency comes the question: why?

This question is behind the Cartesian doubt of our embodied sensibility. Descartes asks why we see the world as we do and not some other way. What prompts such a question are our others and their different ways of seeing it. The embodied sensibility that lies behind this difference thus becomes the focus of Descartes's doubt. As such, it lies at the basis of the procedures that lead to the formalisations that mark our present age. Only by forgetting the embodiment that prompts this question can we be trapped by this formalism. Viewed in this light, responsibility is responsibility to the embodied particularity that underlies our sense of contingency. This is the same embodied particularity that is required for there to be genuine others and, hence, for there to be the objective knowledge that exists through intersubjective confirmation. The questions that such particularity raises are ultimately at the basis of all responding, all responsibility; since only through such particularity do we have the alterity that calls us into question, calling us to respond. What we are called to respond to is not just the questioning of our apprehensions and interpretations; responsibility also includes the conduct, both practical and ethical, that is based on these. The respect for our embodied particularity, in both its capabilities and vulnerabilities, is something that formalisation forgets only at its peril.

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Perceiving Sensible Things: Husserl and the Act of Perception

Anita Williams

Abstract In this paper, I argue that Husserl's critique of formalism remains relevant to psychological models of perception. In particular, I focus on the neurocognitive model of perception to show that, on this model, sense is reduced to sensation and human sense-making is confined to the end point of a causal process. By contrast, Husserl's explanation of human perception reinvigorates a meaningful concept of sense. Husserl explicates that the act of perception is comprised of two aspects: sensuous and categorial intuition. For Husserl, sensuous intuition means that we reach the object of perception without mediation, while categorial intuition means that we understand what we see, can see the same thing differently and can place it in relation to other things. By using Husserl's concepts of both sensuous and categorial intuition, I question the neurocognitive model of perception. Sensuous intuition brings into question the assumption that we are met with sense-data, and categorical intuition brings into question our enchainment to the given, implied by the causal model of perception. In short, for Husserl, sense is not mere sensation, but is constitutive of our meaningful engagement with the world: our understanding of the world is not passively determined by the world external to us; rather, we make sense of the world around us.

Keywords Categorial and sensuous intuition • Perception • Husserlian phenomenology • Neurocognitive psychology

Introduction

Some philosophers argue that a brain-based account of mind resolves Cartesian dualism by establishing that there is only one substance: matter.[1] Furthermore, neurocognitive researchers tend to assume that mind can be reduced to the

[1] For a famous example of this argument see Dennett (1991).

A. Williams (✉)
School of Arts, Murdoch University, Perth, Australia
e-mail: anita.williams1920@gmail.com

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functioning brain.[2] Against this backdrop, I will argue that reducing mind to brain hides, rather than solves, the Cartesian splitting of the world into *res extensa* and *res cogitans*.

I will explicate a neurocognitive model of perception in order to show that a brain-based model of perception does not resolve the mind–matter problem. For neurocognitive researchers, perception is underpinned by a complex causal chain that connects an external object to an internal representation in the brain. As such, the model presupposes a split between external object and internal representation, but cannot explain how the representation is related to the object represented. As such, neurocognitive researchers presuppose the very problem they wish to resolve: they start by assuming the brain represents what is external to it.

Husserl provides a starting point for questioning the splitting of mind from matter as well as reconsidering the relationship between thinking and world. In 'Logical Investigation VI', he redefines matter in terms of sensuousness and mind in terms of categorial form (Husserl 2001).[3] Husserl argues that thinking cannot be explained as a passive impression of sense data, because such an account is unable to explain how we see something and understand it. For him, we are *not* met with a stream of sense(less) data. Instead, we see and think about tables, chairs, kettles and books as well as the relations between them. For Husserl, our ability to grasp and understand sensuous matter requires sensuous and categorial intuitions united in an act of perception. Husserl's explanation of the act of perception provides a way to question brain-based accounts of perception and a starting point to address the problems left to us by the Cartesian split between *res extensa* and *res cogitans*.

The Neurocognitive Model of Perception: External Object to Conscious Percept

Neurocognitive investigations of perception assume that the relationship between the world and thinking can be explained causally. Yet, if we take a closer look at the neurocognitive account of perception, there is no way to explain how perception reaches the world external to it. To support this claim, I will explicate a general model of perception from a neurocognitive perspective. Neurocognitive researchers do not outline a general model of perception; rather, they focus on identifying the

[2] Currently, there are countless examples of research that slips between describing brain function and explaining human cognition. Perhaps the clearest examples are Snyder's attempt to enhance creativity by electrically stimulating the brain and Gallate and colleagues' investigation of the neural basis of prejudice (Snyder 2009; Gallate et al. 2011). Also see discussions of the neuronal correlates of consciousness, for example Aru et al. (2011) and Koch (2004).

[3] German edition (Husserl 1968). The page references for the original text will be given in square brackets after the page numbers for the translated text.

neural processes underlying particular types of perception.[4] However, I will extrapolate a general model of perception from both the empirical studies of perception and the psychological definitions of concepts related to perception. In doing so, I will clarify the problem of explaining perception as a complex causal chain that links external objects to internal percepts.

For neurocognitive researchers, perception is "the process, product, or act of creating coherence from the patterns of energy impinging on sensory organs, which allows either consciousness of objects or states of the external world or the capacity to react differentially to them" (Matsumoto 2009: 369).[5] Perception is the final conscious stage of a largely unconscious process of converting physical energy into nerve sensations and then, finally, into a conscious percept. A conscious percept is understood as a conscious representation of an external object (cf. Matsumoto 2009: 369). For neurocognitivists, the 'percept' must be distinguished from "the object itself and the pattern of energy the sensory system uses as a data source to create the percept" (Matsumoto 2009: 368–369). Neurocognitive psychologists not only distinguish between an object and a percept, but also draw a sharp distinction between sensory information and sensation. Sensory information is considered to be physical energy that 'impinges' on our sensory organs, while sensation is considered as the "subjective experience of the simulation of a sensory organ" (Matsumoto 2009: 483). As I will now elucidate, the distinctions made between object, sensory information, sensation and perception are considered distinct stages of a causal process that links external objects to internal percepts.

Neurocognitive psychologists posit that the process that culminates in a conscious perception starts from the object, which is understood as the cause of the physical energy that is detected by the sensory organs. The physical energy sent by the object hits the sensory organs, and if there is enough energy, it is detected by

[4] Neurocognitive researchers tend to research specific aspects of perception. For example, Wiech, Ploner and Tracey investigate pain perception; while Belin, Fecteau and Bedard investigate voice perception (Wiech et al. 2008; Belin et al. 2004). Neurocognitive researchers may then combine explanations of particular aspects of perception into a more general model of perception; for example, see Campanella and Belin's (2007) account of perceiving persons. However, the added complexities of combining different pathways of perception into a coherent model of perception nevertheless fail to account for perception overall. I wish to highlight that an understanding of perception as a process of combining part-perceptions is unable to account for how we see a whole or how we see something *as* something. Once the external object is reduced to a bundle of sensations, there is no way to combine these sensations into sensible and recognisable wholes.

[5] I rely upon a psychology dictionary to outline the general definitions of psychological terms because I am focusing on outlining a general model of perception; see previous footnote. The general psychological definitions of terms are underpinned by information processing or cognitive psychology, because this is currently the predominant framework in contemporary psychological research. As its name suggests, neurocognitive psychology extends cognitive psychology. The key difference between cognitive and neurocognitive psychology is not a difference in the model, but a difference in the understanding of where models and percepts are located. For example, cognitive psychologists posit percepts as mental representations, whereas neurocognitive psychologists put forward that percepts are neural patterns of activation. See discussions of the Neuronal Correlates of Consciousness (NCC) such as Aru et al. (2011) and Koch (2004).

them. The sensory organs are defined as 'transducers' because they are said to convert physical energy into a form of energy that can be transmitted via nerves to the brain: the sensory organs' function is to convert physical energy (sensory information) into a (nerve) sensation (Matsumoto 2009: 550). The relationship between external object and subjective sensation is described causally: the object causes the physical energy that stimulates the sensory organs; the sensory organs transduce the physical energy into a sensation; and the sensation travels along the nerves to the brain. The process of perception starts when the sensations enter the brain.

For neurocognitive researchers, perception is a brain process that organises sensations into coherent patterns. While the brain is said to actively organise these incoming sensations into neural patterns of activation, these patterns are taken as being the cause of the conscious percept.[6] That is, while the process of perception is understood as an act of creation, it is the brain that performs this action. It is only once the brain has performed the function of processing the incoming sensations that the person can become conscious of an external object or state of affairs. The process of perception is to 'create' a coherent pattern from the incoming sensations, such that we become conscious of what is external to us and are able to respond appropriately (Matsumoto 2009: 369).

An example might help to clarify the neurocognitive model of perception. Let us say I am at the park one day and I see a local resident walking their dog. The neurocognitive researcher takes my awareness that there is a dog before me as the conscious percept. My consciousness of an object external to me is explained by the causal chain that starts with the external object and ends in a conscious percept. The dog causes physical energy to intrude upon my sensory organs: 'light waves' hit my eyes, 'sound waves' strike my ears, etc. The eyes convert the 'light waves' into a sensation of colour. The ears convert the amplitude of the 'sound wave' into the sensation of 'tone' and the frequency of the 'sound wave' into the sensation of 'pitch'. Each sensory organ operates independently to send the related sensory information, converted into sensations, via the nerves to the brain. When the

[6] Neurocognitivists recognise that relating neural activity to consciousness is a problem, but the problem is largely located as a methodological rather than theoretical problem. Christof Koch explains that "the entire brain is sufficient for consciousness", but "identifying all of the brain with the NCC. . .is not helpful, because likely a subset of brainmatter will do". As such, he defines the neuronal correlates of consciousness as "the *smallest* set of neurons responsible for a particular percept" (Koch 2004: 87, emphasis in original). As Aru and colleagues point out, the NCC is understood as a sufficient condition, and implies that it is also a necessary condition, for a conscious percept. For this reason, they state that "NCC is the process we need to study in order to understand how conscious experience of a particular content is related to the neuronal processes of the brain" (Aru et al. 2011: 738). While it is recognised by both Aru et al. and Koch. that we have not been able to locate a NCC as yet, this is taken as a methodological problem. For neurocognitive researchers, there is no doubt that there is a relation between neuronal activity and conscious perception; it is simply a case of finding the correct method for carefully observing how specific neural activity is related to particular percepts. The fact that the NCC entails a problem of relating mind to matter is not attended to by neurocognitive researchers.

sensations of colour, pitch and tone reach the brain, the brain imposes order on these sensations, organising them into a coherent pattern to create the conscious percept: 'dog'. At the end of the process of sensation and perception, I am subjectively aware of a dog.

However, this model of perception raises more questions than it resolves. On closer inspection, the causal model of perception cannot explain the relation between external object and internal representation. How is the object related to the physical energy? What is the relationship between physical energy and subjective sensation? How does the sensation relate to the percept? What is the relationship between the neural pattern of activation and the conscious percept, 'dog'?[7] In other words, the relationship between external object and internal percept remains entirely unclear: the problematic relationship between mind and matter remains, albeit buried behind a complex causal chain.

On the neurocognitive model of perception, there is no way to explain how sensations are combined in a meaningful way. The dog, which shows itself, is entirely lost from the neurocognitive model of perception; before we even get started, it is reduced to a cause of physical energy stimulating the sensory organs. By the time we reach the final step, the conscious percept, we are left with a conglomeration of neurons firing which in no way resembles the dog that stands before us. On the neurocognitive model of perception, we have no guarantee that our percept 'dog' is anything like the object 'dog'. Furthermore, there is no basis upon which to create a 'coherent pattern' that would make sense of the 'incoming sensory information'. How can we 'make' a 'coherent pattern' from neurons firing in order to organise other neurons firing? How can we 'create' a percept *of* a 'dog', when this model excludes from consideration what the percept is about: the 'dog', as such?

To look at the problem from a different angle: I do not perceive a dog as a 'pure' object standing there in isolation; I see an owner walking his dog in the park, amongst things such as other dogs, people, trees, a lake, play equipment, and so on. On the neurocognitive model of perception, there is no way to account for how I distinguish between the dog, the dog's lead and the dog's owner; or how I distinguish the dog from the park or from the other dogs. The situation is dissolved into an aggregate of things, which are further reduced to causes of physical energy. The dog, the dog's owner and the park are all considered in the same light as far as perception is concerned. They are all causes of physical energy that stimulate my sensory organs. Accordingly, we are not met with a park, a dog, and an owner; rather, our sensory organs are bombarded by 'sound waves', 'light waves', and so on. On the neurocognitive model of perception, what distinguishes the owner from his dog, or the dog from his lead, when all we have are waves of energy entering our sensory organs? Perception is considered to be the process that explains how we make a distinction between an owner and a dog, or a dog and its lead, so that we can

[7] See above footnote for further explanation of this point.

act differentially to things we encounter (Matsumoto 2009: 369). Yet, on this model, there is no basis from which perception could derive these distinctions.

The neurocognitive explanation of perception simply assumes a relationship between object 'dog' and percept 'dog'; while the meaning of 'dog' is simply smuggled into both the object and the percept. Once we reflect on the relationship between the object 'dog' and the percept 'dog', we see that there is nothing that relates one to the other on the neurocognitive model. The dog as a meaningful thing is simply assumed, but is left unaccounted for by the neurocognitive model.

What is overlooked in brain-based explanations of perception is that they presuppose the very split between mind and matter that they seek to resolve by positing only one substance. That is, neurocognitive psychologists continue to be stymied by the Cartesian split of *res extensa* and *res cogitans*: the world of external objects remains eternally sundered from the world of internal representations.

How can we confront the problem left to us by Descartes? We cannot avoid the problem by reducing mind to brain; and we cannot accept the split, because there is no way to account for the relationship between *res cogitans* and *res extensa*. Husserl takes this problem seriously, striving to understand how our thinking can grasp its object. For Heidegger, Husserl's 'discovery of categorial intuition' makes headway in clarifying the obscurities left to us by the splitting of mind from matter (Heidegger 1992: 48–50). Husserl's account provides an alternative way of thinking through the relationship between mind and matter. In the 'Logical Investigation VI', Husserl attends to the question of how mind is related to matter by rethinking the concepts of matter and mind as sensuous stuff [*sinnlichem Stoff*] and categorial form [*kategorialer Form*], respectively (Husserl 2001: 185 [5]). Husserl does not present a fully worked-out model of perception, but he does present a different way to think about how we see something *as* something. As such, Husserl provides a critique of the representational model of perception, which underpins the neurocognitive explanation; and a good starting point for rethinking the relation between thinking and world.

Sense and Understanding: Sensuous and Categorial Intuition

Husserl makes a distinction between sensuous and categorial intuition. While sensuous intuition relates to sense perception, categorial intuition relates to understanding. Both these concepts provide a way to think through the problematic assumption that sense data causes mental representations.

Husserl's definition of sensuous intuition means that we intuit what is given without mediation; and that what is given is not an amalgam of sense data, but a sensuous whole. Husserl's concept of categorical intuition adds depth to perception by drawing out that human perception does not stay with the merely sensuous intuition of the given. Husserl's concept of categorical intuition means that we can also understand what is given, understand things differently and understand one thing in relation to another. Sensuous intuition is used to question the assumption

that we are met with sense data, while categorical intuition is used to question our enchainment to the given, implied by the causal model of perception.

Before proceeding to explain the difference between sensuous and categorial intuition, it is important to note that in a concrete intuition of a given object, the sensuous and categorial acts are inseparable: they are united in the act of perception. However, abstractly considering the differences between sensuous and categorial intuition is important for confronting the common-sense split between mind and matter.

Sensibility: Sensuous Intuition

For Husserl, sense perception is straightforward: the act of perception grasps its object. There is no special problem of sense perception and no technical apparatus necessary. Husserl states, "in *sense*-perception, the 'external' thing appears 'in one blow', as soon as our glance falls upon it" (Husserl 2001: 283 [147], emphasis in original and translation). He goes on to explain that despite the obvious complexities of perceptual acts, "the act of perception. . .is always a homogeneous unity which gives the object 'presence' in a simple, immediate way" (Husserl 2001: 284 [148]). The importance of Husserl's concept of sense perception is twofold: the act of sense perception intends the sensuous whole and it does not require a special act of synthesis, added onto the act of sense perception, to get to the whole.

Heidegger explains that the 'simplicity' of the act of sense perception for Husserl "*means the absence of multi-level acts, which institute their unity only subsequently*" (Heidegger 1992: 61, emphasis in translation). The sensuous intuition intends the sensuous whole. As Husserl explains: "in the continuous running of individual percepts we continuously perceive the single, selfsame object" (Husserl 2001: 284 [149]). To use Husserl's example: I see a book. I can see the book hidden behind another book; I pick up the book to check that it is the one I am looking for; I turn the book over to read the back; I open the book to see the pages. Even though I only ever see part of the book, in the act of perception the whole book is intended. Each separate act grasps the whole book; the book stays the same as my perspective of it changes. Husserl writes: "I always see *this book*. It is always one and the same thing, and that not merely in some purely physical sense, but in the view of our percepts themselves" (Husserl 2001: 284 [149], emphasis in original and translation). For Husserl, the important aspect of sensuous intuition is that the perception of the whole is not founded upon the individual perceptions of each side of the book.

To suggest that we add part-perceptions together into a whole is to suggest that there is a special act of synthesis required in addition to the act of perception. Furthermore, to propose that seeing the whole requires a synthesis of different acts of perception means that perception never grasps its object. To return to the example of the book: to propose a subsequent act of synthesis of part-perceptions would mean that I must do something like see the back *and* the front *and* the sides of

the book, before pulling together these part-perceptions into a whole. The whole constructed in the synthetic act is no longer straightforwardly related to the object: the act of perception loses contact with the object it intends. The problematic split between 'external' object and 'internal' representation returns. For Husserl, to require a special act of synthesis to connect part-perceptions into a recognition of the whole object separates the act of perception from its object. Contrasting Husserl's act of perception with the neurocognitive model of perception helps to clarify the concept of sensuous intuition as well as solidifying the importance of this concept.

For neurocognitivists, perception is underpinned by a complex causal process, where the whole object is only recognised in the final stage of perception. As I have outlined, the external object is the first cause in the causal chain of perception; but by the time it is detected by the sense organs, the object has already been dissolved into parts: 'sound waves' hit our ears, 'light waves' strike our eyes, and so on. It is only through the brain processes that make up perception that separate sensations are said to be united into a coherent pattern that somehow reflects the external object. As I have argued above, understanding perception as a complex causal process of detecting, transporting and interpreting sense data opens up an insurmountable gap between external object and internal representation. On the neurocognitive model of perception, it is no longer clear what the internal representation actually represents, because there are so many transformative processes instituted between perception and the object perceived.

By contrast, Husserl proposes that perception is not a complex process, but a simple, unified act that straightforwardly grasps its object. The act of perception allows a thing to show itself, and the thing is disclosed by the act. Of course, I can be deceived about what I see, but I can *also* take a closer look. As Husserl writes, "we may be unsatisfied with a single glance, we may handle the thing from all sides", but in taking a closer look, "feeling it over as it were with our senses", we are always directed towards the sensuous object as a whole object (Husserl 2001: 284 [148–149]). The point is that, for Husserl, we can be deceived, but we are not *always* deceived by what we see; sensuous intuition discloses the sensuous object.

The importance of sensuous intuition – sense perception – is that the act of perception makes contact with its intended object. The act of perception and the object intended by the act are distinct, but they are intimately related: there is nothing mediating them.

In contrast to the neurocognitive model of perception – which presents seeing or perceiving an external object as a special problem to be explained – Husserl argues that sense perception is not a problem. In the act of sense perception, we straightforwardly see the sensuous whole. What *is* a special problem for Husserl is how we see the relation between part and whole, the relation between things, when the relation is not a sensuous object: we can see a book, a chair, a table, etc., but we cannot see 'this', 'is', 'and', etc.

For Husserl, sensuous objects – the possible objects of straightforward acts of perception – define what is real (Husserl 2001: 285 [151]). Heidegger explains that Husserl's concept of 'real' "is a very particular concept"; one that "determines the

analysis of the reality of the world as Husserl carries it out" (Heidegger 1992: 61). However, Heidegger argues that Husserl's definition of 'real' is far from being an arbitrary or constricted definition of reality. Heidegger writes:

> *Sensuousness is a formal phenomenological concept* and refers to all material content as it is already given by the subject matters themselves. This is to be contrasted with the proper concept of the categorial, that is, of the formal and objectively empty. *Sensuousness is therefore the title for the total constellation of entities which are given beforehand in their material content* . . . This broad concept of sensuousness is really at the bottom of the distinction of sense and categorial intuition. (Heidegger 1992: 70, emphasis in translation)

It is this definition of reality as sensuousness – the real object as a possible object of sense perception – which clearly delineates sensuous intuition from categorial intuition. Categorial intuition is involved in seeing; but what is intended in categorial intuition is not the sensuous object but, for example, the relationships between part and whole and between sensuous wholes. For Husserl, relation is not a sensuous object, but an ideal form.

Understanding: Categorial Intuition

According to Husserl, categorial intuition is founded upon sensuous intuition. Sensuous intuition discloses the sensible whole, while the parts remain hidden. Categorial intuition makes explicit the parts of an object. Parts or aspects of the object remain real parts of a real, concrete whole because they are given in straightforward perception, albeit implicitly. These parts of the whole can be brought out explicitly. Husserl writes:

> Each concrete sensible object is perceptible in explicit fashion, and so also every piece of such an object. . .the apprehension of a moment and of a part generally *as* a part of the whole in question and, in particular, the apprehension of a sensuous feature *as* feature, or of a sensuous form *as* a form, point to acts which are all founded: these acts are in our case of a relational kind. This means that the sphere of 'sensibility' has been left and that of 'understanding' entered. (Husserl 2001: 286 [152], emphasis in translation)

Categorial intuition does not lose sight of sensibility, but it changes the way we see sensible matter, without changing the matter itself. While sensuous intuition grasps the sensible whole, categorial intuition comprehends the matter and puts it in relation to other things.

Among other things, categorial intuition allows us to abstract parts from the sensuous whole.[8] For Husserl, the part and whole of the actual thing are welded together: the part is dependent on the whole, and the whole on its parts. It is only through an abstractive act that we can 'lift out', so to speak, this part as a part of this whole. The act of abstracting the part from the whole is a relational act; it brings into relief the relation between part and whole. In seeing the relation, we do not

[8] In categorial intuition, we can also grasp the ideal form, but this is a topic for another paper.

apprehend the actual bond between part and whole: the part and whole are *not* necessarily related in such a way that they could actually be joined or separated; the part and whole are together as one and the same thing. For Husserl, through categorial intuition, we can clarify the sensuous whole and its parts, but we do so by bringing out the ideal, *not real*, relation of part and whole.

To use Husserl's example: S is P. S and P stand in for any possible sensuous object (Husserl 2001: 276 [135–136]). I can articulate that the table *is* brown based upon my grasp of the brown table as an unarticulated sensuous unity. Table and brown are both sensuous concepts. Yet, the 'is' cannot be "grasped with one's hand, or apprehended with some sense"; it cannot be painted in a picture, or used to make a vase (Husserl 2001: 291 [160]). 'Is' does not intend a sensible thing. Husserl states that to look for "a real [*reell*] location of these relations of parts in the whole would be a confusion of distinct things: of *sensuous* or *real* [*realen*] forms of combination with *categorial* or *ideal* ones" (Husserl 2001: 288 [156], emphasis in translation). To use a naive example to clarify the difference: while the leg may be 'glued' to the table, and we might articulate leg *and* table, the 'gluing' is only one actual connection of two parts that can be captured by the ideal relation 'and'. The 'and' does not straightforwardly relate to the glued connection of table and leg. For Husserl, while ideal forms, such as 'is', 'and', 'relation', 'unity', 'aggregate', can be perceived, they are not perceived straightforwardly.

Rather than excluding 'ideal forms' such as 'relation' and 'aggregate' as possible objects of perception, Husserl argues that the clear delineation of the real and the ideal reveals that equating sense perception with perception *per se* is a problem. Defining perception as sense perception *only* is an overly constricted definition of perception; because such a definition excludes too much of what we perceive. We *do not* see merely sensible objects, we see, for example, that the *white* paper *is* written *on in* blue ink *and it lies on* the table. As such, ideal forms – including 'is', 'and', 'part' and 'whole' – are possible objects of perception, albeit not sensible objects of sense perception. We see more than a mere sensuous wholes; we see states of affairs, which requires both sensuous and categorial acts united in an act of perception.

As Heidegger explains, "the being-yellow of the chair, the previously unarticulated subject matter, now becomes visible through the articulation, through the arrangement which we call the state of affairs" (Heidegger 1992: 63). In accentuating the part as *a part of the whole*, we also see the whole more clearly. We see the yellow of the chair and the yellow points back to the whole of which it is a part. Through categorial intuition, we are able to articulate the sensible matter as a state of affairs, but without sensuous intuition the categorial intuition would not grasp its object.

The state of affairs is a new kind of object; we constitute the yellow chair *as* the yellow chair. Categorial intuition changes the way we perceive something, we can see something in a variety of ways. I can pick out the upholstered pattern on the chair; I can see that the chair is positioned awkwardly; I can see my father sitting on the yellow chair. However, categorial intuition does not form the sensible matter apprehended. The categorial act is not an act of creation or construction, but one of

constitution (Heidegger 1992: 71). I make sense *of* the chair *as* yellow, *as* upholstered, *as* sat on by my father. I do not create or construct the yellow chair from thin air: I do not 'fabricate' the matter; I 'bring out' the content of the act of perception. My stating that the chair *is* yellow may change what I accentuated about the chair, but it does not change the chair itself. As Heidegger points out, the important aspect of categorial intuition is that it means that "*sensuousness*", the "material content" of perception, is "*given beforehand*" (Heidegger 1992: 70, emphasis in translation). In other words, the content of the perceptual act is not purely formed by the act itself. Instead, the act of perception grasps something beyond itself.

It is important to remember that the sensuous and categorial acts can only be separated abstractly. When I see a blue house on my street, I rely upon both sensuous intuition, to see the matter itself, and categorial intuition, to see the relation between things and understand what is given. As Heidegger summarises:

> [T]he full composition of the intentions of this assertion [S is P] instead takes place intuitively only in a founded act, *in a sense perception pervaded with categorial acts*. . .concrete intuition expressly giving its object is never an isolated, single-layered sense perception but is always. . .a categorially specified intuition. (Heidegger 1992: 68, emphasis added)

The sensuous aspect of a concrete act of perceiving a given object means that we can grasp the sensible whole; while the categorial aspect of a concrete intuition accounts for our ability to understand the matter and how it is related to other things. In clearly delineating sensible reality from ideal forms and sensuous from categorial acts, Heidegger argues that Husserl can account for the freedom of thought – "the spontaneity of understanding" – as well as the ability of the intellect to grasp sensible things (Heidegger 1992: 70–71).

Conclusion

The neurocognitive model of perception irretrievably separates thought from what thought is about. The object is dissolved into parts before we even have a chance of sensing it. We have no choice over what our senses are bombarded with; and this causal chain, the determination of thought by sense perception, is the only thing that prevents the internal representation from being entirely severed from the external object. The neurocognitive model of perception cannot account for how we see a thing as whole, how we distinguish one thing from another, or how we can see things differently. Brain-based accounts of perception cannot explain how thinking reaches its object. Hence, the reduction of mind to brain does not resolve the mind-matter problem.

By rethinking the concepts of matter and mind as sensuous stuff and categorial form, respectively, Husserl provides a way to question the causal explanations of perception adopted by neurocognitive psychologists, as well as a way to rethink the relation between mind and matter. For Husserl,

(continued)

thinking reaches its intended object: I can straightforwardly perceive sensible things and I can understand what is disclosed in the act of perception. I can grasp the sensible reality that I see and think about. I can also understand what is disclosed in different ways. My thought is neither eternally sundered from the world, nor is my thought chained to sensation. For Husserl, sensuous intuition grasps a whole, while categorial intuition articulates parts of a whole. Through explaining the act of perception as a unified act of sensuous and categorial intuition, Husserl provides a way to understand how our thinking grasps a matter without changing the matter grasped. Husserl can explain how we see something *as* a sensible whole, how we can see states of affairs, and how we can see things differently.

Husserl by no means presents a fully resolved answer to the question of how thinking is related to world, but he does provide a promising starting point for questioning the Cartesian separation of *res cogitans* and *res extensa*. Husserl does not reduce mind to matter; nor does he leave mind as separated from matter. Instead, he takes up the problem of how thinking relates to the world as one that requires special attention and careful consideration. The concepts of sensuous and categorial intuition help us to think through the obscurities left to us by the Cartesian split between *res extensa* and *res cogitans*.

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Are We Still Afraid of Science?

Ivan Chvatík

Abstract In my paper, I do not follow the well-known story of how Husserl wanted to solve the crisis of mankind by his transcendental phenomenology. Neither do I analyse Heidegger's views on the danger of science and technology. Rather, I examine a new book by renowned physicist Stephen Hawking and his colleague Leonard Mlodinow, to see how they reflect on this situation today. Although I accept their method of a "model-dependent realism", I cannot agree with their arrogant formulation of a purely deterministic physical concept of the universe, and I strongly refute their conviction that human beings are merely deterministic robots without free will.

Keywords Hawking • Grand design • Multiverse theory • Brain • Free will • Quantum fluctuation

About 80 years ago, Edmund Husserl began to formulate his ideas about the situation in the world after World War I and the world economic crisis that led to the transfer of political power to the hands of irrational, nationalistic dictatorships. After all, he thought, this was the result of a fatal development in modern science: the split between the world of modern science and the naive world of human life had caused a loss of faith in human reason, giving way to irrationalism of all kinds. His unfinished book, *The Crisis of European Sciences and Transcendental Phenomenology*, appeared only after World War II (Husserl 1970).[1]

In 1936, Husserl's pupil Jan Patočka published, in Prague, the first detailed description of the naive world of life from the phenomenological point of view (Patočka 2008 [1936]). At the beginning of his book Patočka formulates, quite dramatically, the feeling of the time: "Modern man has no unified world-view. He lives in a double world, at once in his own naturally given environment and in a

[1] German edition: *Die Krisis der europäischen Wissenschaften und die transzendentale Phänomenologie* (Husserl 1954).

I. Chvatík (✉)
The Jan Patočka Archive, The Center for Theoretical Study, The Institute of Philosophy at the Academy of Sciences of the Czech Republic, Prague, Czech Republic
e-mail: chvatik@cts.cuni.cz

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world created for him by modern natural science, based on the principle of mathematical laws governing nature. The disunion that has thus pervaded the whole of human life is the true source of our present spiritual crisis" (Patočka 2008 [1936]) – "What had hitherto been deemed reality is real no longer. . ." (Patočka 2008 [1936]) – "Since [man] does not live out of himself – rather life is something he *receives* – the question of the *overall meaning* of life lacks all real significance; [. . .] The lowered sense of self carries with it [. . .] a spreading of the objective barrenness into our very lived-experience. It is as if all the diversity of life were ringing with an unvaried tone of indifferent nothingness. . ." (Patočka 2008 [1936]: 137).[2]

I will not follow here the well-known story of how Husserl wanted to solve the crisis through his transcendental phenomenology. Neither will I analyse how Heidegger radically modified Husserl's position by introducing the ontological topic of human existence and formulating his views on the danger of science and technology. I shall also not refer to how Patočka treated this problem in his *Heretical Essays in the Philosophy of History*, his last book, in the 1970s (Patočka 1996).[3]

Rather, I will look at a new book by renowned physicist Stephen Hawking and his colleague Leonard Mlodinow, to see how they reflect on this situation today (see Hawking and Mlodinow 2010). In short, I would not have believed that a position like this is still possible in the present day – but indeed it is. In their book, they solemnly announce that the "M-theory [multiverse-theory] is the only candidate for a complete theory of the universe [. . .] If the theory is confirmed by observation, it will be the successful conclusion of a search going back more than 3,000 years". Though the sentence is introduced by a condition, the tone of the whole book is so self-assertive that when the authors declare in the last sentence: "We will have found the grand design", the reader is inclined to believe that it is a done thing; because a few lines above, the authors are proud to declare, not in the conditional tense but in the indicative, that: "The fact that we human beings – who are ourselves mere collections of fundamental particles of nature – have been able to come this close to an understanding of the laws governing us and our universe is a great triumph". And we are not to forget that their theory provides "a model of a universe that creates itself" (Hawking and Mlodinow 2010: 181).

What Edmund Husserl, the founding father of phenomenology, was afraid of is once again fully fledged here. Hawking and Mlodinow speak proudly about the achievements of "human beings" in physics – but what, in fact, are these beings, according to them? "[M]ere collections of fundamental particles" (Hawking and Mlodinow 2010: 181). We are even given an emphatic lesson explaining that we human beings, because we are "mere collections of fundamental particles", cannot have free will (Hawking and Mlodinow 2010: 30–33). The naturalisation of the spirit, as Husserl called it, is here again clearly and explicitly declared.

If these particles – likewise all of nature – are governed by laws, and these laws do not admit any exception, they must also govern our behaviour and actions. All

[2] Translation: Erika Abrams.

[3] Czech edition: *Kacířské Eseje o Filosofii Dějin* (Patočka 2007).

that we do and think is therefore quite unequivocally determined by the law of causality. The only trouble is that the particles we are made of are so many that we are not able to calculate the causal chains resulting in our deeds. So the naive illusion of 'free will' is still used as a plausible, 'effective' model, although we know how it 'really' is.

To support the possibility that life and intelligence can come into being as a result of deterministic processes, an example is described that in fact does not prove anything. It is the so-called "Game of Life, invented in 1970 by a young mathematician at Cambridge named John Conway" (Hawking and Mlodinow 2010: 172). A few logical rules govern the lighting up and switching off of squares on a square matrix; it is possible to view how the patterns made by the lit squares change and move as if the patterns were alive. But this would not be enough: to have a model of life, there must be a replication because, as Hawking and Mlodinow say: "One can define living beings as complex systems of limited size that are stable and that reproduce themselves." Nevertheless, to fulfil this condition is not beyond our scope: "One estimate, based on the earlier work of mathematician John von Neumann, places the minimum size of a self-replicating pattern in the Game of Life at ten trillion squares – roughly the number of molecules in a single human cell." Well, this is the first step – life can be a deterministic process. The next step is as follows: "Such an object would respond to environmental stimuli, and hence appear to make decisions." But now the trouble comes. This being will behave fairly intelligently, but the authors have no tools to decide, "would such life be aware of itself? Would it be self-conscious?". They of course know that a positive answer to this question is the condition for such a being to have free will. But "how can one tell if a being has free will? If one encounters an alien, how can one tell if it is just a robot or it has a mind of its own?" A robot is deterministic: it does not have free will. But "since an alien the size of a human would contain about a thousand trillion trillion particles, even if the alien were a robot, it would be impossible to solve the equations and predict what it would do". From this we are provided with the solution to the question of free will: since "it would be impossible to solve the equations and predict what it would do" the authors submit a substitute explanation. "We would therefore have to say that any complex being has free will – not as a fundamental feature, but as an effective theory, an admission of our inability to do the calculations that would enable us to predict its actions" (Hawking and Mlodinow 2010: 178). Free will turns out to be a pleasing label describing super-complicated, deterministic mechanisms.

But where does the authors' fierce effort to deprive people of free will come from? Why deprive people of the basic feeling of freedom and responsibility for their acts by forcing them to regard themselves as mere deterministic machines? It appears the authors believe that the only alternative to their theory according to which "the universe can create itself from nothing" (Hawking and Mlodinow 2010: 180) is that our universe was created by God. Their concept competes with "religious" education that suggests "this grand design is the work of some grand designer. In the US, because the Constitution prohibits the teaching of religion in schools, that type of idea is called intelligent design, with the unstated but implied

understanding that the designer is God" (Hawking and Mlodinow 2010: 164). "That," as they continue, "is not the answer of modern science." Modern science must do without God. "Many people through the ages have attributed to God the beauty and complexity of nature that in their time seemed to have no scientific explanation. But just as Darwin and Wallace explained how the apparently miraculous design of living forms could appear without intervention by a supreme being, the multiverse concept can explain the fine-tuning of physical law without the need for a benevolent creator who made the universe for our benefit" (Hawking and Mlodinow 2010: 165). Our authors pretend to be enlighteners; fighters against superstition, and also against philosophy – as they declare on the very first page of the book. They ask a number of questions that, as they themselves state, "traditionally are questions for philosophy. . .". But as philosophy today, according to them, does not fulfil its task, they must continue by saying: ". . .but philosophy is dead. [. . .] Philosophy has not kept up with modern developments in science, particularly physics. [. . .] Scientists have become the bearers of the torch of discovery in our quest for knowledge" (Hawking and Mlodinow 2010: 5).

Let us take a closer look at what these questions are, given that "the purpose of this book is to give the answers"; at what the answers are "that are suggested by recent discoveries and theoretical advances" (Hawking and Mlodinow 2010: 5). The aspirations of the book are really not minor. The book starts in a similar way to Aristotle's *Metaphysics*: ". . .humans are a curious species. We wonder, we seek answers."[4] Similarly, in the next sentence, the authors do not miss the opportunity to allude to Kant: ". . .gazing at the immense heavens above, people have always asked a multitude of questions. . ." (Hawking and Mlodinow 2010: 5). We can only wonder why they do not continue in Kant's line of questioning and ask about the 'moral law in ourselves'.

"How can we understand the world in which we find ourselves?" (Hawking and Mlodinow 2010: 5). Really, it is a fair philosophical question. But the authors do not mean the question in a transcendental sense. They do not ask what it means that we understand, or inquire into the structure of understanding or the conditions for us to understand anything. They simply ask for a non-contradictory theory that will cover all that 'is'.

But perhaps this philosophical topic will be treated in the next question: "What is the nature of reality?" (Hawking and Mlodinow 2010: 5) Here, again, it seems we are in the womb of Aristotle's metaphysics. Is it not he who asked "*Ti to on, touto esti tis hē ousia?*",[5] and established the concepts we have used more or less in the same meaning until the present day; as matter, form, essence, accident, and so on? But also here, we are disappointed. The book does not investigate how far our ontological concepts must be changed in comparison with those of Aristotle, to be able to handle the things we are speaking about in nuclear and sub-nuclear physics.

[4] "All men by nature desire to know" (Aristotle 1941: I, 1, 980 a 921).

[5] ". . .what is being, i.e. what is substance?" (Aristotle 1941: VII, 1, 1028 b 1024).

A similar story unfolds with the question, "Why is there something rather than nothing?" (Hawking and Mlodinow 2010: 10). Leibniz's well-known, basic, metaphysical question[6] is answered in an odd way that completely misses his intended, metaphysical meaning: "Spontaneous creation is the reason there is something rather than nothing, why the universe exists, why we exist" (Hawking and Mlodinow 2010: 180).

But again, the authors feel there is some problem with reality. They solve it for themselves as follows:

> The naive view of reality is not compatible with modern physics. [. . .] We shall adopt an approach that we call model-dependent realism. It is based on the idea that our brains interpret the input from our sensory organs by making a model of the world. When such a model is successful at explaining events, we tend to attribute to it. . .the quality of reality or absolute truth. But there may be different ways in which one could model the same physical situation, with each employing different fundamental elements and concepts. If two such physical theories or models accurately predict the same events, one cannot be said to be more real than the other; rather, we are free to use whichever model is most convenient. (Hawking and Mlodinow 2010: 7)

In reading these lines, we can see several important points. First of all, what does it mean that "our brains interpret the input from our sensory organs"? Is there not abundant philosophical literature discussing this question? Does it not show that the question here is extremely complicated and cannot be answered without treating the human being as a whole; not splitting it into body and soul as was done in the Cartesian tradition, but analysing the structure of human understanding as rooted in a very special ontological structure that forces us to contrast human beings, not only against non-living things, but even against all other living beings, by considering its existential character? Only on the basis of such description – which began in Husserlian phenomenology of various kinds and has been carried on in what we can call Heideggerian phenomenology – is it possible to show how the building of scientific theories is rooted in exactly the "naive view of reality" that begins the quotation above: in, so to speak, the life of the finite, mortal human being; with our intrinsic understanding of the necessity to care for our own survival, and orientating ourselves by managing our possibilities.

There are originally no facts, no observations, no 'events' as they are meant in the above quotation. The basic life of human beings is stretched towards these possibilities, and only in managing them do we reflect on things like the differences between up and down, right and left, front and back, near and far, and, last but not least, future and past.

This 'living in possibilities' goes hand in hand with the development of what we call language; and only by means of speech is it possible to fix individual things and facts, to make distinct observations, and to quarrel about truth. Only now, having speech, is it possible to discover mathematics, the only 'model' of 'absolute truth'; and hand in hand with this, the question arises of what it means to *be*: the

[6] "*Pourquoi il y a plutôt quelque chose que rien*?"; "Why is there something rather than nothing?" (Leibniz 1934 [1714]: §7, 26).

philosophical question of reality. Only in this situation can the germs of science – the theoretical thinking about nature – begin.

It was a major philosophical struggle to get rid of metaphysics, which wanted to acquire definitive knowledge of everything; and to reach the discovery that all our concepts are historically biased and that it is meaningless to hope for ultimate metaphysical answers. This move in philosophical thought has been accompanied by a new understanding of the historically inherited concept of human freedom. Human being is now understood in terms of our being "thrown" into being, into existence, without having anything absolute to lean upon when deciding what to do; when looking for the ultimate meaning of life. Even gods of all kinds have disappeared in this epoch and do not function as warrants of the absolute. Human freedom is nothing less than this; and free will is simply a special part of it. It is a special task for us to describe this new situation thoroughly and to mark out the new possibilities of life on our human level. This is what Jan Patočka started to think about in his late essays, during the 1970s (Patočka 1996).

What Hawking and Mlodinow call "model-dependent realism" can only appear and be understood in the historical situation just described; when there are no gods and no hope for reaching anything absolute. This methodological position is certainly acceptable: indeed, it is clear that "there is no picture- or theory-independent concept of reality" (Hawking and Mlodinow 2010: 42), and that "physical theory is a model and a set of rules that connect the elements of the model to observations" (Hawking and Mlodinow 2010: 43). It is obvious that "if two such physical theories or models accurately predict the same events, one cannot be said to be more real than the other; rather, we are free to use whichever model is most convenient" (Hawking and Mlodinow 2010: 7). Yet, is it not interesting that even the authors themselves, who are advocating the impossibility of free will, 'are *free* to use whichever model is most convenient'?

Of course they are free. They freely design the theories and models – and this means in fact the laws – of nature. But human freedom is finite. We have to design, or prescribe (to speak with Kant) the laws of nature so that nature can obey them. And we are also free to obey the laws we have invented, or to not obey them and die. To understand that there are no omnipotent gods also means to understand that even if we are free, we are not gods and we have to respect our finitude. Our finitude – the impossibility of disobeying the laws of nature – is one of the main conditions for the possibility of our reasoning: the condition that forces us to understand. The other condition is, of course, that which we call 'the regularity of nature'; that it is not governed by Descartes' *deus malignus*, which would like to deceive us. In the end it seems that these two conditions – human, finite freedom and the regularity of nature's behaviour – are one and the same. Perhaps Kant meant something similar when articulating his deduction of categories in the *Critique of Pure Reason*.

Now, what does it mean that we freely choose to use whichever model is most convenient? Apparently it is most convenient for us to calculate and accurately predict events we are interested in. In this sense a model is real: it really does give us the power to use the regularities of nature for our goals. Considered from this point of view, this is, of course, a great achievement.

But what has been achieved from the point of view of explanation? When we are doing scientific experiments, we are observing phenomena within our 'naive view of reality'. We see the changing position of the pointer on the apparatus, we see the change of colour of something, see that something appears, that something disappears. Now, using historically inherited language, we 'make models': we freely invent 'theories' about what happens beyond our sight through metaphor, which fixes structures of the observed happenings and allows us to formulate them mathematically. So we speak about particles, forces, fields, waves, beams and strings; and also about time and space. In this sense it is quite acceptable that the mathematical descriptions of these structures work with multidimensional and non-Euclidean spaces; that time is another dimension of space, and so on.

The trouble begins when we evasively forget the metaphorical character of these words; forget that they are just the names of arguments in mathematical equations; and start to use them speciously in 'normal' language – as is done in the book we are speaking about. For what else is it when the authors insist that they have shown how our universe began out of nothing, as one of a multitude of others, and even state the exact time when its beginning occurred? A frosty shiver runs down the spine and in bewilderment we remember Shakespeare's King Lear, shouting in passion to his loving daughter: "Nothing will come of nothing!" (Shakespeare 1975: Act I, 1).

However, when we look closer at the formulations used to communicate this 'information', we see that it was not quite 'out of nothing'. In the introductory chapter we read that "these multiple universes arise from physical law" (Hawking and Mlodinow 2010: 9); and at the end of the book we learn of a "spontaneous quantum creation of the universe" (Hawking and Mlodinow 2010: 136). On the next page, in a more exact formulation, "nothing" appears again: "quantum fluctuations lead to the creation of tiny universes out of nothing" (Hawking and Mlodinow 2010: 137).

Of course, we are not so bold as to try to imagine something like this. We would like only to understand the thought pattern that makes such an idea possible. And it is obviously simple: "Some people make a great mystery of this idea, sometimes called the multiverse concept, but these are just different expressions of the Feynman sum over histories" (Hawking and Mlodinow 2010: 136).

Although the authors inform us in a general way about Feynman's theory, which was invented for the description of the paradoxical wave and corpuscular behaviour of micro-particles, they do not give us any grounds for why they can retell this highly abstract mathematical model so shamelessly for a naive audience, using the traditional concepts of time, space, creation, beginning and – last but not least – nothing:

> Over the centuries many, including Aristotle, believed that the universe must have always existed in order to avoid the issue of how it was set up. Others believed the universe had a beginning, and used it as an argument for the existence of God. The realization that time behaves like space presents a new alternative. It removes the age-old objection to the universe having a beginning, but also means that the beginning of the universe was governed by the laws of science and doesn't need to be set in motion by some god. (Hawking and Mlodinow 2010: 135)

So, in the end, we hear echoes of the fairytale about the clever peasant girl who came to the palace to become the King's wife, because she was the only one to fulfil the King's conditions: she came neither naked nor dressed, neither on foot nor on the back of an animal, and so on. On the one hand, the beginning of our universe happened 'out of nothing', being 'governed by the laws of science'; on the other hand, there is no beginning of the universe because time behaved 'at that time' as a dimension of space.

Given all this, I think, one can no longer be surprised that in the variety of such spontaneously beginning universes there is one so fine-tuned that such ephemeral beings as humans could arise there. But let us see the conclusion of the authors:

> Only a very few (universes) would allow creatures like us to exist. Thus our presence selects out from this vast array only those universes that are compatible with our existence. Although we are puny and insignificant on the scale of the cosmos, this makes us in a sense the lords of creation. (Hawking and Mlodinow 2010: 9)

Is what we hear at the end of the quote a mere fluke, or should we understand that the dream of the old Descartes that we be "*maîtres et possesseurs de la nature*" has become reality?

And what about our leading question? Are we still afraid of science? I think not. It seems to me that people have got so used to scientists' careless handling of the metaphors taken from the 'naive world' that they do not take it as seriously as they did some 100 years ago. What we have to be afraid of is what Martin Heidegger, especially, analyses in his late works: namely, that we assume a godlike sovereignty – which makes us think we are lords of creation, commanding the power of all possible universes – and forget that we cannot even master the powers we have really acquired.

But how could we, if we are willing to hold ourselves as part of these acquired powers; and if even renowned scientists try to convince us that we are merely deterministic robots without free will? – So, in the end, we are to be afraid of these irresponsible scientists; who in their limitless pride proclaim nonsense which even they themselves cannot believe – unless they are, in accord with their theory, robots arisen as a result of some not-quite-successful quantum fluctuation.

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