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## What is the Crisis of Western Sciences?

Emiliano Trizio<sup>1</sup>

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**Abstract** This article is an attempt to formulate a clear definition of the concept of crisis of Western sciences introduced by Husserl in his last work. The attempt will be based on a reading of the *Krisis*, which will stress its underlying continuity with Husserl's life-long concerns about the theoretical insufficiency of positive sciences, and downplay the novelty of the idea of crisis itself within Husserl's work. After insisting on the fact that, according to Husserl, only an account of the shortcomings of the scientificity of Western sciences can justify the claim that they are undergoing a crisis, it will be argued that the common definition of the crisis of the sciences as the loss of their significance for life rests on a misunderstanding. The crisis of Western sciences will be characterized, instead, as the repercussion of the crisis of the scientificity of philosophy (and, specifically, of metaphysics) on the scientificity of positive sciences. The loss of significance of scientific knowledge for our existence will in turn appear as a further, inevitable consequence of the uprooting of the sciences from the soil of a universal philosophy culminating in metaphysics, and thus, as a phenomenon deeply intertwined with the crisis of Western sciences, but not identical to it.

The *Crisis of European Sciences and Transcendental Phenomenology*<sup>1</sup> has been and still is today arguably the most widely read, quoted, and commented on of all Husserl's works. This is unsurprising: the *Krisis* offers in a relatively few pages a complex narrative sketching, in very broad strokes, both the illness of contemporary Western humanity and the sense in which transcendental phenomenology

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<sup>1</sup> Henceforth *Krisis*.

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constitutes the only possible therapy for it. What is surprising, instead, is that the very concept of “crisis of Western sciences” remains surrounded by a certain unclarity and ambiguity. In particular, most readers of the *Krisis* have either wrongly identified the crisis of sciences with a different phenomenon, namely their loss of meaning or significance for life, or failed to appropriately characterize and distinguish these two phenomena and articulate their mutual relations. To be sure, both the crisis of the sciences and their loss of significance for life belong to the complex vicissitudes of “sense” (*Sinn*) in Husserl’s broadest sense of the word; but the difference between them, and consequently the difference between *two types of sense*, cannot be overlooked without affecting the notion of crisis of the sciences with a fundamental unclarity that has negative repercussions also on the understanding of the exact nature of the therapeutic *Leistung* that phenomenology is meant to provide. This, in turn, is an essential component of the phenomenological project in its entirety—specifically of Husserl’s last version of it, which relies heavily on the concept of life-world.<sup>2</sup>

Admittedly, part of the difficulty of clarifying the notion of crisis is due the fact that Husserl speaks of several different and interconnected “crises” that, while ultimately all having to do with the forgetfulness of the founding role of transcendental subjectivity, concern either specific positive sciences, such as physics and psychology, or positive science in general, or else philosophy in the strict sense of the word, or, finally, the totality of the cultural life of European Humanity.<sup>3</sup> However, in spite of this fact, it is possible to provide a unitary account of these multiple “crises” through a close reading of some passages of Sections I and II of the *Krisis* and, thereby, to spell out the terms of the specific crisis affecting European (i.e., Western) sciences.

## 1 The Crisis of a Science Can Only be a Crisis of Scientificity

It is almost unfortunate that Husserl has made use, in his late writings, of the term “crisis” to denote what he saw as the illness of Western civilization. The emphasis with which he used this word, along with the powerful impression that the dramatic historical circumstances of the time were themselves motivating a fundamentally new approach, has made it appear that some kind of radical change had occurred in Husserl’s own thought. It is well known that this impression is wrong: neither Husserl’s interest in the history of philosophy and science, nor his disaffection with the present state of Western culture are new. The expression “crisis of the sciences” is, if anything, exploited by Husserl to highlight the connection between these two themes on the one hand, and Husserl’s life-long struggle to characterize the insufficiency and incompleteness of positive sciences, on the other.<sup>4</sup> It has often

<sup>2</sup> The present essay will not attempt a detailed account of this therapeutic *Leistung* itself.

<sup>3</sup> Moran (2012, pp. 7–8). On this point, see also Robert Hanna’s review of Moran’s book (Hanna 2014, pp. 752–753).

<sup>4</sup> The question of what is new in Husserl’s last work, first discussed by Ingarden (1972), has been reconsidered by Majolino (2008a, pp. 19–21), who corrects Ingarden’s dismissive judgement by opposing a substantial continuity at the level of materials with Husserl’s new way to reconfigure them and highlight

been said that this lexical novelty within Husserl's corpus is largely due to the influence of the widespread use of the term "crisis" in and outside German-speaking culture.<sup>5</sup> Indeed that word was rather foreign to the technical development of Husserl's own thought.<sup>6</sup> Even in the *Vienna Lecture* and the *Krisis* itself the word "crisis" appears but a few times and virtually only in the initial considerations and in the opening programmatic statements.<sup>7</sup> Particularly significant is that, after Part I, the word "crisis" appears only a few times in the entire *Krisis*, and, once more, in connection with the difficulties besetting psychology. Thus, what is required is to dig through the limited and circumstantial use of the language of crisis in order to highlight in what way Husserl's diagnosis of the illness of Western sciences connects with the fundamental theses of his philosophy.

Husserl's often-quoted first word on the theme is of vital importance in identifying the principle theme of this text:

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Footnote 4 continued

their mutual relations. Majolino also stresses the "sedimentary" character of this work (Ibid.), whose complex genesis has been reconstructed in detail by R. N. Smid in the introduction to Hua XXIX. On this issue, see also Rockmore (1984).

<sup>5</sup> According to the historian Rüdiger Graf, who has very recently done extensive research on the crisis-literature in Weimer Republic, "Between 1918 and 1933, more than 370 books were published bearing the term 'crisis' in the title. While the number of these books remained relatively constant during the first years of the republic, it jumped in 1928 and then again in 1931–1932." (Graf 2010, p. 592). Graf also informs us (pp. 600–601) that the use of the Germanized Greek term "*Krisis*" instead of the today's more common "*Krise*" was very widespread at the time (as has been noted, while preferring the more solemn Greek term, Husserl uses both). Even more interesting is Graf's thesis that depicting the present as a time of crisis was a widespread rhetorical strategy, especially among political extremists: "By positioning themselves in a period of crisis, Weimer intellectuals and politicians conceptualized the present as a time of decision between two mutually exclusive existential alternatives to motivate other people to bring about the desired option and prevent the undesired." (p. 614). I cannot but observe that Graf's analysis applies word for word to the famous closing lines of the *Vienna Lecture*, where Husserl sees only "two escapes from the crisis of European existence: the downfall of Europe in its estrangement from its own rational sense of life, its fall into hostility toward the spirit and into barbarity; or the rebirth of Europe from the spirit of philosophy through a heroism of reason that overcomes naturalism once and for all." (Hua VI, pp. 347–348; 1970 p. 298). It seems, thus, that Husserl took from the wider cultural context of the time not only the word "crisis" but also the rhetorical tropes that went with it.

<sup>6</sup> Talk of a more specific crisis of the sciences was also rather common at the time (as Husserl himself says in §1). To take but a few examples, *Die Krise der Psychologie* was the title of a book published in 1927 by the psychologist Karl Bühler, who was acquainted with Husserl's work, and who might also have influenced its subsequent development (Orth 1999, pp. 14–16). Much earlier than that, back in 1899, Rudolf Willy had already written a book bearing the title *Die Krisis in der Psychologie*. Max Planck had spoken of a crisis of physics consisting in the uncertainty affecting both its theoretical principles and its epistemological status (Planck 1931). José Ortega y Gasset had extensively discussed the crisis of sciences in his famous essay *The Revolt of the Masses*, where he envisaged that, due to their increasing specialization, their progress would come to a standstill. In his view, therefore, the crisis of the sciences would be one of progressiveness (Ortega y Gasset 1964, pp. 107–114). Finally, the historian Johan Huizinga, in 1935, lamented a crisis of the sciences (especially the exact ones) consisting in the fact that their new theories have departed from anything we can intuitively represent and make sense of in terms of our everyday thinking (Huizinga 1936, chapter VI), a theme subsequently echoed by Arendt (1998 p. 3). An analysis of the specificity of Husserl's own notion of a crisis of Western sciences with respect to those approaches cannot be carried out here for reasons of space.

<sup>7</sup> It is interesting that in the *Vienna Lecture* the word "crisis" is not yet specifically referred to the generality of positive sciences.

A crisis of our sciences as such: can we seriously speak of it? Is not this talk, heard so often these days, an exaggeration? After all, the crisis of a science indicates nothing less than that its genuine scientific character [*ihre echte Wissenschaftlichkeit*], the whole manner in which it has set its task and developed a methodology for it, has become questionable [*fraglich*]. (Hua VI, p. 1; 1970, p. 3)

The crisis of a science, we are told, must involve that its *scientificity*<sup>8</sup> has become questionable, where scientificity is in turn explicated in terms of two notions: the task and the method of a science. Husserl thus makes it clear from the beginning that the crisis of a science must consist in its inability to become what it should be, to actualize fully the essence of authentic science (Hua VI, p. 1; 1970, p. 3). All the tension lies from the outset between the sciences as they are today and the essence of science that implicitly inhabits them as a *telos*. In what way does the scientificity of science amount to “the whole manner in which it has set its task and developed a methodology for it”? For Husserl, the task (*Aufgabe*) of a science consists in the theoretical determination of a certain subject-matter, while the method (*Methode/Methodik*) to accomplish such determination depends on the nature of the subject-matter itself.<sup>9</sup> Now, Husserl is aware that the claim that our sciences should appear as failing to match the essence of science in terms of its task and method seems to be puzzling. This, Husserl admits, might be the case in philosophy and in some forms of misguided psychology,<sup>10</sup> but in no way can it be said about a science such as mathematics or physics. Indeed, Husserl dismisses any idea that even the recent spectacular scientific upheavals (such as the demise of classical physics) have rendered questionable the validity of these disciplines’ results.<sup>11</sup> Similarly, he does not hesitate to reassert the validity of the so-called humanistic sciences, or sciences of spirit, and conclude that the *prima facie* scientificity of the latter is unquestionable when compared to the hopelessly unscientific character of philosophy.

Let us note that, already at this stage, dangerous misunderstandings could arise precisely concerning what Husserl has in mind when he proclaims the successful and progressive character of both natural and social sciences. One such misunderstanding is due to reading the *Krisis* through the lens of today’s

<sup>8</sup> Translating “*echte Wissenschaftlichkeit*” with “genuine scientific character,” while not incorrect, somehow weakens the reference to the essence of authentic science that is vital not to overlook in this context.

<sup>9</sup> The terms “*Aufgabe*” and “*Methode*” do have technical value in Husserl and are used consistently throughout his work. In particular, “*Aufgabe*” is almost systematically employed in reference to the object of a science.

<sup>10</sup> Philosophy is unscientific because it has surrendered to skepticism, that is, has given up altogether its “inborn” task to be the science of the totality of being, while psychology is unscientific in so far as it tries to be philosophical, that is, it goes beyond its own subject-matter. Also, when a peculiar crisis of psychology is mentioned in §2, it is immediately linked to the enigmas of its subject-matter and method.

<sup>11</sup> Validity that, presumably, equates to “truth” in the case of pure mathematics and “convincingness” in the case of physics.

debates over scientific realism. Within English speaking philosophy of science, such debates typically take as their starting point the gulf existing on the one hand between the rather uncontroversial “success of science” interpreted first and foremost as predictive and technological success and, on the other, the much more problematic and disputed claim that successful science makes us advance towards a true description of the world. Scientific realists argue that the success of science thus defined provides good reasons to be optimistic about the epistemic ambitions of science, while scientific anti-realists deny it, and, consequently, settle for a variety of positions often akin to one or another version of instrumentalism or empiricism.<sup>12</sup> Now, one cannot stress enough that these philosophical categories are wholly inadequate to capture the real sense and import of the phenomenological theory of science. Husserl does not claim here, nor will he claim later in the *Krisis*, that our sciences enjoy predictive or technical success only, while lacking any grip on reality itself; nor, consequently, does he intend to characterize the crisis of Western sciences as this alleged failure to yield theoretical truths concerning their respective objects. Such instrumentalist accounts of science would be totally incompatible with Husserl’s own notion of *science*. A technique that makes successful predictions without being able to make us advance in the true theoretical determination of its objective domain would not be a science going through a crisis, for it would not amount to a science at all, not even to an inauthentic one. In other words, it would not even qualify as a *theoretical technique*, because it would lack the *prima-facie* scientificity that Husserl is ready to grant to most of our positive sciences.<sup>13</sup>

The conclusion of the first paragraph of Part I is, therefore, a negative one. We have not yet found the sense in which one might proclaim that the positive sciences undergo something like a crisis of scientificity. On the contrary, we find methodically rigorous disciplines producing a wealth of compelling theoretical insights in their respective domains. Actually, those disciplines enjoy all the virtues of rationality and progressiveness that philosophy is still so despicably lacking. However, our questioning has been put into a better focus, for we now know that it will be possible to speak of a crisis of Western sciences only if the scientificity of positive sciences can be judged unsatisfactory at a deeper level. The question is therefore: can Western sciences be unscientific in a more fundamental way, which does not disqualify their *prima facie* scientificity?

<sup>12</sup> A still valid overview of the scientific realism debate in contemporary philosophy of science can be found in Psillos (2000).

<sup>13</sup> I will argue elsewhere that some often quoted passages of the *Krisis* (see, for instance Hua VI, p. 52; 1970 p. 51, where the famous expression “*Ideenkleid*” is used) have been misunderstood as implying an instrumentalist reading of Galilean physics (see, for example, Rang 1990). Let us also add that Husserl’s claim concerning the validity of the achievements of social sciences such as history and anthropology would be even more puzzling when read in light of the realism/anti-realism dichotomy, which is based in turn on the opposition between predictive success and “literal” truth.

## 2 The Crisis of European Sciences Does Not *Consist* in the Loss of Their Meaning for Life

The second section of the introduction of the *Krisis* has been the source of a dangerous misunderstanding, namely the widespread belief that Husserl, after acknowledging that the positive sciences are very successful both practically and theoretically, has *defined* their crisis as *the loss of their meaning for life*. In order to show that such reading is fundamentally wrong, one has to realize that §§2, 3 and 4 develop a single theoretical movement setting the ground for Husserl's own formulation of the crisis of European sciences, which is stated only in §5. Yet, the three paragraphs comprised in this short second section already contain a good many elements to help us avoid this misunderstanding.

Let us begin with the title of §2 of the *Krisis*: *The positivistic reduction of the idea of science to mere factual science. The "crisis" of science as the loss of its meaning for life [Lebensbedeutsamkeit]*. Its first part expresses one of Husserl's most-often-repeated claims about the current status of science, namely that according to the empiricist (i.e., positivistic) false conception of the *idea* of science there can be scientific knowledge about facts (*Tatsachen*) only. Husserl is not claiming that existing sciences only yield knowledge of facts (though this remains true of all empirical sciences), but that positivism wrongly interprets scientific knowledge as affording (and requiring) knowledge of facts only, to the point that even sciences that Husserl considers eidetic in character, such as logic and mathematics, and that are necessary for grounding any knowledge about facts, are misunderstood in a psychologistic way as sciences investigating factual laws of the human psyche. Contrary to what many readers have thought, the second part of the title only describes how the current state of science happens to be *perceived* (and with good reason) at the time Husserl is writing. This is clearly indicated by the fact that the word *crisis* now appears between quotation marks, a use that, as is well-known, in Husserl marks a certain distance from what is being asserted or from the way in which a given word is used in common philosophical parlance. To be sure, these quotation marks do not express disagreement, but only the idea that word is *not yet* used in the sense that the subsequent course of the analysis will specify and that corresponds to Husserl's own intended meaning. Consequently, the title of this section reads: science is considered to undergo a "crisis" because it is, with good reason, judged unable to address the questions that matter for our life, that concern human existence, and this perceived "crisis" can be explained by the triumph of a narrow positivistic conception of science.

How does this claim relate to the end of the previous section, that is, to the as-yet unsuccessful quest for a sense in which European sciences can be said to be in a crisis? The answer is in the first paragraph of §2.

It may be, however, that motives arise from another direction of inquiry—that of the general lament about the crisis of our culture and the role here ascribed to the sciences—for subjecting the scientific character of all sciences to a serious and quite necessary critique without sacrificing their primary sense of



scientific discipline, so unimpeachable within the legitimacy of their methodic accomplishments. (Hua VI, p. 3; 1970, p. 5)

Given that a science can undergo a crisis in the real sense of the word only if its scientificity is in question, the sense of the move contained in §2 is the following: let us take the “*crisis*” of science, i.e., the widely acknowledged and undoubtedly real loss of its meaning for life, as a *starting point* to unveil the nature of the real *crisis* of science, which affects its scientificity in a still unspecified way. The subsequent paragraph anticipates that this new direction of investigation will highlight the central role of psychology and its own “*crisis*,” leading to the enigma of subjectivity, and to the emergence of the most puzzling obscurities of all our sciences, including the exact ones. Once more, the word “*crisis*” appears in quotation marks for, as we have seen, there is a widespread perception of the difficulty affecting that science, without a real philosophical clarification of its nature. This “*crisis*” too, which indeed not only affects the scientificity of psychology, but does so in its primary sense involving its positive progressiveness, is not yet clarified enough to be called a *crisis* without quotation marks (as it will be in §60, when Husserl’s own understanding of the crisis is in place).

The initial lines of the third long paragraph of this section underscore this interpretation:

We make our beginning with a change which set in at the turn of the past century in the general evaluation of the sciences. It concerns not the scientific character [scientificity] of the sciences but rather what they, or what science in general, had meant and could mean for human existence. (Hua VI, p. 3; 1970, p. 5)

In this passage, Husserl explicitly claims that the “*meaning of science for life*” does not equate to its scientificity; therefore, given that, as we have seen in the previous section, the crisis of a science can only be a crisis of its scientificity, the perceived loss of that “*meaning*” cannot possibly coincide with the crisis we are trying to define. Furthermore, one should pay attention to the fact that the word appearing in the title, “*Lebensbedeutsamkeit*,” whose corresponding concept Husserl evokes here with the expression “*what science means for human existence*,” does not belong to Husserl’s technical language and is never found elsewhere in the *Krisis*. The terms “*Bedeutung*” and “*bedeuten*” themselves have no technical use in this text. Indeed, the choice made by Gérard Granel, the French translator of the *Krisis*, to translate “*Lebensbedeutsamkeit*” simply as “*importance pour la vie*”<sup>14</sup> is, at bottom, correct, and has the advantage of defusing, at least in part, the dangerous ambiguity contained in the term “*meaning*”. Husserl, after all, is claiming that our science does not tell us anything about what really *matters* to us, what is vitally *important* for us. Furthermore, Carr’s translation renders with “*meaning*” both “*Bedeutung*” and “*Sinn*,” which latter is, as we shall soon see, the real philosophically pregnant word in this context. In this article I will systematically

<sup>14</sup> Husserl (1976, p. 9).

render *Sinn* by “sense” while translating the words “*Bedeutung*” and “*Bedeut-samkeit*,” instead, by “significance.”

### 3 Understanding the Reason for the Present Lack of Significance of Science for Life: The European Sciences as Remnants of the Striven-for Universal Philosophy Culminating in Metaphysics

Now the real question is: what exactly is it that European sciences are unable to address? According to Husserl, both natural and social sciences are constrained, by their character as “factual sciences,” to omit any reference to the questions concerning the sense or the lack of sense of human existence, which Husserl, in turn connects to the opposition between reason and unreason (Hua VI, p. 4; 1970, p. 6). In the case of the sciences of material nature the point *seems* to be made rather easily, because they necessarily abstract from any element pointing to subjectivity. For us, today, it is even hard to imagine how any knowledge about the structure and behavior of material bodies could imply anything about what gives sense to our existence. In the case of humanistic disciplines, the situation is more complex. In principle, their object concerns precisely the structure and development of human cultural and intellectual life. Everything we think and believe, everything we accept as a norm or as an ideal, whether in science, in ethical and political life, or in art is included in their domain. And yet, it is included simply as a fact. The scholar interested in human culture and its historical development ascribes beliefs and attitudes involving norms, goals and ideals, and these attributions are the facts that they claim to discover.

But in this way, the problem of validity and lack of validity of these norms, goals and ideals is completely missed, i.e., the problem of reason and unreason is either ignored, or solved in a completely relativistic manner. All idealities of reason become historically contingent facts, “fleeting waves” (Hua VI, p. 7; 1970, p. 4) bound to disappear in the ocean of history. This famous and intense formulation of the blindness of positive sciences towards the problem of reason is but the culmination of Husserl’s lifelong struggle against both naturalism and historicism, which reduce rationality, respectively, to a contingent emergence within nature or within history. If, for once, the insistence is here on historicism and not on naturalism, it is because Husserl is hinting at the possibility of reading history in a completely different way, one that makes visible, through the opaque surface of historical facticity, precisely the teleology of reason. This different way of reading history is what Husserl will practice in Part II of the *Krisis* and explicitly illustrate in §15, where the history of modern philosophy is shown to be inhabited by a *sense* that must guide our present philosophical efforts, and that, therefore, has a significance for our life. Indeed, according to Husserl, the sciences of Spirit, when correctly (i.e., phenomenologically) interpreted, will appear to be governed by an *a priori* that has normative aspects for human life (Hua XXVII, p. 7) and thus can bear a more decisive significance for human life than the natural ones. This significance cannot be dissociated from questions of values that belong in *axiology* rather than in

the general theory of science; and it is the latter, as we shall see, that will give us the key to understanding the crisis of the sciences in its specific nature.

From the first lines of §3, Husserl begins to exploit the strategy indicated in the previous section: starting from today's unsatisfactory situation, from the "crisis" just outlined, we find motives to undertake an historical reflection on the idea of science. By looking back at the past of our culture, before the age of positivism, we realize that our sciences have not always been affected by the lack of significance ("*Bedeutung*," the word here appears twice, and once more it is in conjunction with what we described as the "crisis" with quotation marks) for the "specifically human questions." Husserl is keen on stressing that the relation to these problems extends beyond the sciences that deal with "man" to the natural sciences themselves: even physics or biology in some way had "something to tell us." How exactly even natural sciences could claim a significance for life within the unity of a modern metaphysical system is something Husserl does not explain. Nevertheless, specific examples can be supplied. Through the sixteenth and seventeenth centuries, technical questions of natural science were often deemed relevant for moral and theological issues, especially in consideration of the problematic impact of the new mechanistic view of nature; and, at least with respect to life-sciences, the concept of teleology pointed to obvious religious implications.

To consider just one example pertaining to physics, Christian Wolff could claim to have provided the principles on the basis of which "the knowledge of Nature becomes a steady ladder, on which those who possess the most exercised reason can, starting from each thing, no matter how bad it looks, ascend to God."<sup>15</sup> It is clear to what extent the inscription of natural science within a metaphysical system could bestow upon it a significance for life that went far beyond both its practical utility and the intellectual satisfaction experienced by those who can understand it. One cannot find a starker contrast than that between Wolff's enthusiastic claim and the way in which Max Weber, some twenty years before Husserl, characterized the recent divorce between scientific knowledge on the one hand, and the questions of "sense" (including those concerning religion) on the other:

Who—aside from certain big children who are indeed found in the natural sciences—still believes that the findings of astronomy, biology, physics, or chemistry could teach us anything about the meaning [*Sinn*] of the world? If there is any such "meaning," [*Sinn*] along what road could one come upon its tracks? If these natural sciences lead to anything in this way, they are apt to make the belief that there is such a thing as the "meaning" [*Sinn*] of the universe die out at its very roots. And finally, science as a way "to God"? Science, this specifically irreligious power? That science today is irreligious no one will doubt in his innermost being, even if he will not admit it to himself. Redemption from the rationalism and intellectualism of science is the

<sup>15</sup> "[D]ie Erkenntnis der Natur eine feste Leiter wird, darauf diejenigen, welche die geübteste Vernunft haben, von einem jeden Dinge, es sey dem Absehen nach so schlecht als es wolle, zu Gott hinauf steigen können" (Wolff 1747, §5).

fundamental presupposition of living in union with the divine. (Weber 1946, p 142)<sup>16</sup>

What took place long after Wolff and just before the time Weber is writing is precisely the positivistic reduction of the idea of science just outlined, which has deprived it of any moral, metaphysical, and theological implications that they had as branches of one single universal science.

How did this positivistic reduction occur? We will have to return to it, but for the moment the following indications will suffice. The emergence of the idea of philosophy and of its guiding function for humanity is the everlasting achievement of Greek culture. This idea was revived and radicalized at the beginning of the modern era. The philosophy of Descartes and, more specifically, his *Metaphysical Meditations on First Philosophy* is precisely what Husserl has in mind. In that work, a foundation is sought able to give an unshakable basis to all human knowledge and to outline a metaphysical edifice in which the sciences of nature, as well as a new psychology, find their place and an ultimate epistemological and ontological clarification. Modernity has been marked by the renewal of the ancient ideal of Philosophy as the universal science, “the science of the totality of what is.” It corresponds to the unity of the theoretical determination of all conceivable domains of investigation, including those of the individual scientific disciplines, whether empirical or eidetic, and including the domains of practical and evaluative disciplines.

Thus philosophy, intended as the science of the totality of what is, encompasses the tasks rooted in all aspects of rationality and consists in a unitary and hierarchically structured system of sciences. Fundamental to such a system is metaphysics, “the sciences of ultimate and highest questions,” the “specifically philosophical.” These questions are fundamentally concerned with the “problem of reason.” “Here Reason,” as anticipated earlier, “is a title for ‘absolute,’ ‘eternal,’ ‘supertemporal,’ ‘unconditionally’ valid ideas and ideals.” The relation between metaphysics and the “problem of reason” is powerfully evoked in the following famous passage:

If man becomes a “metaphysical” or specifically philosophical problem, then he is in question as a rational being; if his history is in question, it is a matter of the “meaning” [*Sinn*] or reason in history. The problem of God clearly contains the problem of “absolute” reason as the teleological source of all reason in the world—of the “meaning” of the world [*Sinnes der Welt*]. Obviously even the question of immortality is a question of reason, as is the question of freedom. All these “metaphysical” questions, taken broadly—commonly called specifically philosophical questions—surpass the world understood as the universe of mere facts. They surpass it precisely as being

<sup>16</sup> As noted by Gurwitsch (1956, p. 383), Husserl’s account of the cultural attitude towards science predominant at the time reminds us of Weber’s. Gurwitsch also rightly stresses the different attitude of the two thinkers with respect to it (ibid.). However, Gurwitsch wrongly identifies this situation with the crisis of the sciences itself (ibid.). It should also be noticed that Weber’s aim was to indicate what kind of significance science could have for human existence in spite of its irrelevance for the highest questions concerning sense and value (Weber 1946, pp 151–152). And it was one, we can add, that would not have satisfied Husserl.

questions with the idea of reason in mind. And they all claim a higher dignity than questions of fact, which are subordinated to them even in the order of inquiry. Positivism, in a manner of speaking, decapitates philosophy. Even the ancient idea of philosophy, as unified in the indivisible unity of all being, implied a meaningful order of being and thus of problems of being. Accordingly, metaphysics, the science of the ultimate and highest questions, was honored as the queen of the sciences; its spirit decided on the ultimate meaning [*Sinn*] of all knowledge supplied by the other sciences. (Hua VI, p. 7; 1970, p. 9)

Here metaphysics, “the queen of sciences”, appears as the science of all ultimate questions concerning the rationality of being, i.e., its *sense*, a science ultimately entrusted with the task of bestowing ultimate sense on all other sciences, thus providing philosophy with its very unity.

However, as §4 briefly outlines, the enthusiasm for the rediscovery of the idea of philosophy turns rapidly into bitter disappointment at the undeniable failure to achieve in the domain of metaphysics the success of the natural sciences, and, *in primis*, of the new mathematical physics. In other words, while the new physics, and following its model, a growing number of other natural sciences, had succeed at becoming sciences, “certain of their methods” and capable of producing insights, growing in number generation after generation, metaphysics was stuck in a war of opposing systems unable to establish their universal validity. Understanding the reason for this failure will be the aim of Part II of the *Krisis* (on which more will be said in the next section). The history of philosophy during the two centuries following Descartes, in the two opposite camps of the rationalists and the empiricists, is thus crucially determined by the problem of the possibility of metaphysics and unavoidably leads to the triumph of positivism at the end of the nineteenth century and, therefore, to a narrow, residual idea of science.

The overall development contained in §§2–4 is now clear. Philosophy can be said to have undergone a crisis of scientificity in its own right in the way specified by Husserl, i.e., one that affected its own task and method: it failed to develop a method apt for a science of the totality of being and of its ultimate sense. The brief historical excursus has therefore made us appreciate in a better way what lies behind the commonly acknowledged lack of scientificity of philosophy, which, at the beginning, Husserl contrasted with the “unimpeachable” scientificity of positive sciences. As a repercussion, the surviving positive sciences have lost any significance (or importance) for life, which is the undeniable cultural fact with which Husserl’s retrospective consideration of history has begun. In other words, our sciences do not contribute to “making sense” of the world in terms of its ultimate rationality, precisely because they are no longer embedded in a universal philosophy capable of deciding questions of *value* and *sense*. How does the just acquired awareness that the current positivistic idea of science is a residual concept provide us with a motive for submitting the *scientificity* of European sciences to “to a serious and quite necessary critique,” as Husserl suggested at the very beginning of §2? As we are about to see, giving an answer to this question requires the specification of a more technical notion of “sense”.

#### 4 The Crisis of European Sciences as the Repercussion of the Demise of Universal Philosophy on Their Scientificity

The answer can be given only by understanding what happens *to the scientificity* of special sciences after the demise of the idea of an all-encompassing philosophy as universal science of being, and, therefore, of metaphysics as the science of the ultimate problems pertaining to reason. Obviously, those scientific disciplines, the natural, the cultural, and even the mathematical ones, could not remain unaffected, because what they are, *qua* special sciences, follows from the limited province of the totality of being they investigate. Now, it is precisely by explaining the consequences of the failure of modern philosophical rationalism that Husserl finally provides us with a first brief, but dense, characterization of the real crisis of European sciences:

Yet the problem of a possible metaphysics also encompassed *eo ipso* that of the possibility of the factual sciences, since they had their relational meaning [*Sinn*]*—that of truths merely for areas of what is—in the indivisible unity of philosophy. Can reason and that which-is be separated, where reason, as knowing, determines what is? [...] [U]ltimately, all modern sciences drifted into a peculiar, increasingly puzzling crisis with regard to the meaning [*nach den Sinn*] of their original founding as branches of philosophy, a meaning [*Sinn*] which they continued to bear within themselves. This is a crisis which does not encroach upon the theoretical and practical successes of the special sciences; yet it shakes to the foundations the whole meaning of their truth [*ihre ganze Wahrheitssinn*]. (Hua VI, pp. 9–10; 1970, p. 11–12)*

As these passages clearly indicate, the crisis of the sciences in question is indeed a crisis pertaining to what Husserl calls *sense* (*Sinn*), but this *Sinn* should not be lumped together with the broader and less technical notion of *Sinn* that is at stake in all the highest metaphysical questions, which concern God, immortality, the sense of human existence, and the teleology of human history. Therefore, it is not yet something sufficient to spell out the significance of science for life.

Overlooking this fact obscures the difference between this formulation of the crisis of Western sciences, the one Husserl considers the proper one, and the crisis of Western culture in its entirety, which concerns sense in general, and, eminently, the sense of human existence. Indeed, Husserl's concerns here are (unsurprisingly) *wissenschaftstheoretisch* and fully in line with his earlier discussions of the status of the founding role of transcendental phenomenology with respect to the special sciences. Let us analyze these two passages in detail. In order to spell out the notion of crisis that they introduce, I will now draw both on Part II of the *Krisis*, which reconstructs the descending trajectory of modern philosophy just evoked in §4, and on Husserl's earlier works. Without such supplements, they are bound to remain obscure.

As we have seen, philosophy aims at the theoretical determination of the totality of what is on the basis of a rational procedure that rests on an ultimate justification. *Truth in itself* is what is thus aimed at, the truth that, surpassing all relativities of

pre-scientific life, corresponds to being in an ultimate sense, *ontos on*. Special sciences achieve this level of ultimate knowledge only insofar as their rationality can be traced back to this ultimate foundation. Hence, they cannot be authentic (*echte*) sciences, or *episteme* of a specific sphere of being, so long as they limit themselves to the internal rationality of their own methods (Hua XVII p. 4; 1969, p. 4), which, by definition, is unable to elucidate what the “area of what is” they investigate ultimately is,<sup>17</sup> how it stands in relation to the totality of being, and what rational accomplishments disclose it. Now, with the demise of the modern revival of the idea of philosophy, what takes place is precisely the “absurd” separation between “reason” and “that which-is.” Without the grounding of the sciences in the unity of a theory bringing to light the correlation between reason and being, the being investigated by science remains affected by a fundamental unclarity and relativity, notwithstanding the fact that the relativity of pre-scientific life has been overcome. The grand phenomenological theme of the constitution of ontological regions and its fundamental importance for the theory of science is here evoked. Indeed, the main focus of part II of the *Krisis* (and even more, so of Part IIIB) is not the life-world *per se*, but the life-world as the horizon within which the different ontological regions must be correctly identified in their specific intelligibility in order for a science to get hold of the sense of its task, and, consequently of its method.<sup>18</sup>

In the *Krisis*, while characterizing all European sciences in a way that applies to all sciences, including mathematics and logic, Husserl focuses on the crisis of the two fundamental groups of factual sciences, the sciences of nature and the sciences of Spirit, and, therefore, on the relation between the life-world on the one hand, and the regions Nature and Spirit on the other.<sup>19</sup> Part II of *Krisis* is by and large a history of how, throughout modern philosophy, the mode of being of these two regions received what in the *Cartesian Meditations* Husserl calls “wrong interpretations” (*verkehrte Seinsinterpretationen*),<sup>20</sup> which ultimately had to plunge modern rationality into a crisis. This history can be summarized in the following way.

Galileo neglected the origin of geometry and physics in the life-world and so turned the mathematical idealizations objectifying the pre-scientific material nature into a world existing in itself as a realized mathematical multiplicity, which our

<sup>17</sup> See Husserl's characterization of the subject-matter of a science in *Ideen III*: “[T]he fundamental essence, the idea of every science of a categorial type and the idea of its method as the ‘sense’ of every science, precedes the science itself and can—and must—be established from the proper essence of the idea of its objectivity, which determines its dogma, that is to say, can be established a priori.” (Hua V, p. 13; 1980, p. 11). Note, further, the purely *wissenschaftstheoretisch* use of the word “*Sinn*” in this context.

<sup>18</sup> This in spite of the fact that the life-world is described as a universal philosophical problem with respect to which understanding the sense of its scientific objectivation remains only a partial problem (Hua VI, §33).

<sup>19</sup> “[W]hat corresponds to our particular manner of being as scientists is our present functioning in the manner of scientific thinking, putting questions and answering them theoretically in relation to nature or the world of the spirit; and [the latter are] at first nothing other than the one or the other aspect of the life-world” (Hua VI, p. 112; 1970, p. 110). For the rootedness of the object of psychology in the life-world, see for instance (Hua VI, §61).

<sup>20</sup> (Hua I, p. 118).



theories only try to approximate (Hua VI, p. 93; 1970, p. 90). The exemplary success of the new science of nature paved the way to Descartes' dualism of substances, i.e., to the splitting of the world into two parallel dimensions, soul and material nature, investigated respectively by psychology and physics. We witness here the first wrong *Seinsinterpretation* of both ontological regions in the form of the modern psychophysical worldview. Nature now has the sense of a being existing "outside" subjectivity, one that must be inferred, or even demonstrated, starting with the evidence of the *cogito* gained in the closed interiority of the soul. However, both physics and—to the extent that it can already be considered a positive science—psychology are founded on Descartes' metaphysics, and the "areas of what is" that they study received a precise "place" in the totality of being. Thus, within modern metaphysics, the being investigated by these sciences was still thought in its connection with reason, although the essence of reason and, correlatively, the authentic sense of "being in itself" were fundamentally missed, due to the application to metaphysics of the axiomatic-deductive style of rationality at work in the exact sciences. Modern objectivistic rationalism, guided by the ideal of establishing a "rational total system of what is" (Hua VI, p. 65; 1970, p. 64) after the model of what modern physics has developed for material nature, reaches its apex in Spinoza's *Ethica*, which (Husserl here repeats the formulation given in §3 word for word) exposes "a systematic philosophy-metaphysics, a science of the ultimate and highest questions, questions of reason, but also questions of fact." (Ibid.). In Spinoza's metaphysics, the science of nature and the supposedly parallel science of the soul are dependent branches in the "first universal ontology" (Hua VI, p. 66; 1970, p. 65).<sup>21</sup> In the unity of a metaphysical foundation, the new sciences receive both a rational foundation and a significance for human existence; further, the scope of scientific knowledge extends beyond the sphere of facts to matters of values and goals, to questions concerning human existence, and to the ultimate foundation of everything, i.e., God. Yet, Husserl adds, the other driving force of Descartes' philosophy, the transcendental motive, misguided by the general failure to understand the intentional nature of consciousness, leads to Berkeley's idealism and, finally, to Hume's skepticism, which dissolves the being of soul and nature, as well as reason itself, into pure fictions. This is the turning point of this history, the bankruptcy of philosophy and science.

At this point, it is the reader who has to locate the full manifestation of the crisis of European sciences (in the sense of the outbreak of a latent illness that finally plays havoc in an organism), since Husserl does not explicitly mention it. But in §5 we do have a clearer statement of what is anticipated:

And now empiricist skepticism brings to light what was already present in the Cartesian fundamental investigation but was not worked out, namely, that all knowledge of the world, the prescientific as well as the scientific, is an enormous enigma. [...] What a paradox! Nothing could cripple the peculiar force of the rapidly growing and, in their own accomplishments, unassailable exact sciences or the belief in their truth. And yet, as soon as one took into

<sup>21</sup> See also (Hua VII, p. 193): "Spinozas *Ethik* ist eine rein rationale Metaphysik, die alle besonderen Ontologien in sich schliessen sollte".



account that they are the accomplishments of the consciousness of knowing subjects, their self-evidence and clarity were transformed into incomprehensible absurdity. (Hua VI, p. 91; 1970, p. 89)

The real nature of this enigma, the enigma of all enigmas, “the world-problem of the deepest essential interrelation between reason and what is in general” (Hua VI, p. 12; 1970, p. 13),<sup>22</sup> could not be grasped by Hume or his contemporaries; but the malfunctions inherent in modern rationalism were now exposed. Already with empiricist skepticism, *the enigma implied by any objectivity* (from the ones of prescientific life, to those of science and philosophy, including values and goals) is finally, if dimly, felt. In particular, concerning exact sciences, Husserl describes here the separation between reason on the one hand and “what is” on the other mentioned in §5 of the *Krisis*. Sciences remain, one could say, truth-seeking techniques (*prima facie* scientificity), but the sense in which they achieve knowledge of a certain region of “*ontos on*”, i.e., the ultimate rationality of their task and method (higher-level, “authentic” scientificity), is completely lost.

The therapeutic task of transcendental phenomenology thus becomes clear and can be very succinctly formulated in the following way: to replace the metaphysical foundations of sciences, which rested on a rationalism misguided by the model of scientificity of modern physics (i.e., by physicalism) and, taking up once more the transcendental motive derailed into Hume’s skepticism, to succeed where both Kant and German idealism failed (Hua VI, pp. 102–103; 1970, pp. 99–100), i.e., to elucidate how sciences involve the rational accomplishments of transcendental subjectivity. The discovery of the intentional character of consciousness and of the connection between rationality and intentionality (Hua VI, §20) pave the way to a new, and final, “critique of knowledge” which rests on the insight that *the sense in which something exists* is constituted in transcendental consciousness. This is to say that the sense of being (*Seinssinn*) of all spheres of beings, and, correlatively, the sense of the truth (*Wahrheitssinn*) of both the prescientific and the scientific knowledge of them, must be elucidated by the phenomenology of reason. This leads us back to what the second paragraph of the passage quoted at the beginning of the section refers to with the claim that the collapse of the philosophical universe “shakes to the foundations” *the sense of scientific truth*. This is the more technical type of sense that we needed to identify in order to understand the peculiar crisis of scientificity of positive sciences.

In sum, *the crisis of European sciences consists in the fact that the specific domain of being that they take as object has become enigmatic*. In phenomenological terms, it consists *in the lack of clarity concerning the sense of their truth and the sense of the being they investigate*. Without the elucidation of this sense, they fail to be “*episteme*, i.e., scientific knowledge of what is in-itself” (Hua VI, p. 78; 1970, p. 76). They are, at best, “theoretical techniques,” blindly yielding truths

<sup>22</sup> The impossibility of bringing to light the real essence of this enigma before accessing a properly phenomenological problematic is discussed in de Warren (2008, p. 25 and p. 43).

about their subject-matter, while their *authentic scientificity* (*echte Wissenschaftlichkeit*), i.e., their task and method remains questionable (*fraglich*).<sup>23</sup>

Our positive sciences, therefore, are not experiencing a crisis because they are incapable of achieving truth in their respective domains of investigation; nor are they in a crisis because in their own theoretical development they fail to address questions of value and of ultimate sense (which lie outside their domain); rather, their own crisis is a purely theoretical one, which concerns the transparency and intelligibility of their accomplishments. To what extent a theoretical technique may be slowed down or even partially impaired in its own quest for truth by the lack of clarity concerning its object and thus its foundations is another, highly technical, question. For, to be sure, a theoretical technique might achieve a great deal in its search for truth and yet stumble into some specific theoretical questions that cannot be answered without gaining clarity at the level of its foundations. Let us also notice once more that philosophy's own crisis is much more radical than that of the positive sciences, because philosophy cannot survive in the form of a mere theoretical technique. This intermediate level of scientificity is missing in the case of philosophy due to fundamental reasons that cannot be explored here. Thus, today, the highest questions of sense and value are no longer within the compass of scientificity *at all*.

Unfortunately, after the passage of §5 commented upon in this section, Husserl does not explicitly say that the question stated in §1—namely, with what right we can speak of a crisis of the positive sciences—has now received a first (albeit very sketchy) answer, and precisely according to the method indicated at the beginning of §2, i.e., by taking as starting point the perceived “crisis” of European sciences as their loss of significance for life. This being said, in the last lines of §6, which insist on the need to take up in a new way the project of universal philosophy (and of metaphysics), Husserl does speak in a manner that presupposes that the concept of the crisis of European sciences has in fact been introduced, and that it is now necessary to move to the discussion of its motives.<sup>24</sup>

<sup>23</sup> Husserl gives a clear formulation of the lack of value of a truth without its sense in *Ideen III*: “True statements are not, without something further, intrinsic values, and no more so are methods for the production of such statements.” (Hua V, p. 82; 1980, p. 96).

<sup>24</sup> The reading I have presented here departs from a number of interpretations that either *identify* the crisis of European sciences with their loss of “meaning” (or significance) for life, or lump together questions concerning scientificity (the sense of truth of the positive sciences) with questions concerning existential significance (the sense of humane existence and of the world in general) without giving a clear account of their mutual relations. I limit myself to a few notable examples. According to Gurwitsch (1956, p. 383): “The crisis of the Western sciences does not concern their technical validity. What is in question is the meaning of the sciences in a philosophical sense and, no less important, their human significance. [...] Science, it seems, has nothing to say as to things that matter most for human existence.” In his monumental commentary to the *Krisis*, Enzo Paci (1972, p. 3) writes: “The crisis of which Husserl speaks, however, does not concern the sciences as such. Rather, it concerns what they have meant and what they could mean for human existence.” As many analyses contained in his work show, Paci is certainly aware of all dimensions of the crisis, including the most technical ones concerning the special sciences and including the complex relation between phenomenology and metaphysics, but he does not carefully distinguish them. According to Boehm (1979, p. 27): “Die Krisis der europäischen Wissenschaften erblickt Husserl im Verlust der Lebensbedeutsamkeit unserer moderner Wissenschaften, den Grund dieses Verlustes im Objektivismus dieser Wissenschaften, der sie unfähig macht, die Lebenswelt in ihrer subjektiven Relativität zu ihrem Thema zu machen.” This passage contains the

## 5 Further Clarification of the Notion of Crisis of Western Sciences

The above formulation of the concept crisis of a science could be fully clarified only once the different crises specific to each science were illustrated (from logic and mathematics to the sciences of spirit). Here, as an example, I will say a few words about the specific nature of the crisis of physics. In doing so, I will once more stress the continuity between the crisis-concept and Husserl's earlier accounts of the theoretical lack of self-sufficiency of the positive sciences.

As already mentioned, the focus of the *Krisis* is on physics and psychology, as the two fundamental disciplines of *Naturwissenschaften* and *Geisteswissenschaften*, respectively. In the *Krisis*, Husserl characterizes the crisis of physics (without ever using this expression) as the lack of clarity about the relation between prescientific, life-worldly nature and its idealized counterpart postulated by physical theory. It is a lack of clarity that, in turn, prompts puzzling questions concerning whether the real world is the one described by physical theory or the one that is given in intuition and that “makes enigmatic the manner of being of both” (Hua VI, p. 134; 1970, p. 131). This problem, differently formulated, has beset modernity and has ultimately made the very idea of a true world problematic (*ibid.*).<sup>25</sup>

In the case of physics, it is particularly easy to convince oneself that the formulation of its crisis in terms of the life-word reconceptualizes Husserl's life-long concerns with the problem of the philosophical foundation of positive sciences. Not only can the general terms of the crisis be found in the introduction to *Formal*

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Footnote 24 continued

further incorrect idea that thematizing the relations between, say, Galilean mechanics and the *Lebenswelt* would bestow upon the former a “*Lebensbedeutsamkeit*.” Elizabeth Ströker (1988, p. 207) goes so far as to deny that the crisis concerns the scientificity of the sciences: “Diese Krise betraf selbstverständlich nicht die niemals angezweifelte Wissenschaftlichkeit der Wissenschaften, sondern das, was sie, was Wissenschaft überhaupt, dem menschlichen Dasein bedeutet hatte und bedeuten kann.” See also Ströker (1992, p. 107). We have seen, instead, that the crisis does not concern the *prima facie* scientificity of science only. A better account, in terms of the crisis of philosophy, is given, instead, in Ströker (1996, p. 319). Carr (1974, p. 46) writes: “In spite of its great theoretical and practical successes, there is crisis of science. It consists in ‘the loss of its meaning for life’.” And more recently: “The European sciences trace their origin to a time when these ideas could still be taken seriously, when knowledge was supposed to make us wise and give meaning to life. But now they have been separated from each other, from the guiding ideal of unity represented by philosophy, and above all from the ordinary human life to which they were supposed to give meaning. This is the crisis of European sciences: the loss of their meaning for life.” (Carr 2010, p. 86). A similar account of the crisis of Western sciences is given by Bernet et al. (1993, pp. 220–225). The nuanced reading offered by James Dodd also goes in that direction.

In particular, Dodd (2004, p. 29) locates, as I have done, the actual formulation of the crisis in the beginning of §5, but he still reads it as concerning not “what science intends to accomplish” but “the place, or role of science in human life.” Dodd adds that “science, in its contemporary form, fails to address what needs to be addressed, not in order to be a science, but in order to be a human being.” (2004, p. 30). Let us stress, once more, that the point at issue is not whether, according to Husserl, sciences have lost their significance for life, but whether this fact *coincides* with their crisis or is another, intimately related, aspect of the uprooting of science from a universal philosophy.

<sup>25</sup> On the other hand, the crisis of psychology runs deeper, for it consists in its chronic inability even to discern the sphere of being which constitutes its real domain, access to which requires a specific *epoché* whose possibility, according to Husserl, has never been grasped before (Hua VI, §§60–72). For a detailed account of the crisis of psychology and of its central role with respect to all other sciences and to phenomenology itself, see Majolino (2008b).

and *Transcendental Logic* and the course *Einleitung in die Philosophie* (Hua XXXV, §§1–4), but also a clear account of the “enigmas” underlying physics is already present in the lectures Husserl gave in 1906/1907, *Introduction to Logic and the Theory of Knowledge*. In §20 Husserl characterizes each science as an “ontology”<sup>26</sup> that needs philosophical clarification in order to become an ultimate science of being, i.e., metaphysics. Husserl illustrated the limited character of the rationality of empirical sciences with the example of physics: completely different views are possible about what the object of physics, material nature, ultimately is. Husserl mentions here a number of doctrines popular at the time: materialism, idealism, positivism, and psychomonism. Yet these disagreements do not interfere with the ongoing and consensual construction of an identical body of physical knowledge.<sup>27</sup>

To be sure, Husserl’s theory of science has evolved a lot from 1907; nevertheless, the crucial idea of the insufficiency of Western sciences is already there: they can only become authentic sciences by being embedded in a phenomenological elucidation of the way in which they serve the task of theoretically objectifying a sphere of being given in intuition.<sup>28</sup> In line with the opening claim of the first section of this article—namely, that resorting to the language of crisis made it possible for Husserl to connect the themes of historicity and cultural critique with the problematic of the theoretical insufficiency of the sciences—the *notion of crisis allows Husserl to situate the theoretical insufficiency of the sciences, which he had always denounced, in the teleological narrative of Western history.*

The example of mathematical physics also helps us understand why it is better not to frame the general definition of crisis of Western sciences in terms of their “forgetfulness of the life-word”. Besides the fact that Husserl never explicitly does so, and besides the further important fact that insistence on the notion of life-world hides the substantial continuity of Husserl’s phenomenological critique of science by suggesting that it can be expressed only in the language of its last works, the main problem of such a definition consists in the fact that it mistakes the illness for its cause. Indeed, Galileo was blind to the prescientific sense-foundation of physics, and, due to the forgetfulness inseparable from this blindness, the life-word has been hidden by the idealization of physical theory. However, this forgetfulness does not amount to the crisis of physics, precisely because it is its cause. Galileo’s blindness to the real sense of mathematization as a methodic objectivation of the prescientific nature carved out of the life-world has made it impossible, for centuries, to

<sup>26</sup> “In a certain way, every empirical science is a science of what is real. It deals with real things, with their real becoming, with their real relations, etc. Each such science is, therefore, in its way, an ontology.” (Hua XXIV, p. 93; 1984, p. 96).

<sup>27</sup> “In possession of exact mechanics, acoustics, theory of electricity, etc., we are, nevertheless, not yet in possession of definitive knowledge, of ultimate, conclusive knowledge of the essence of nature, and the fact is that nothing of this is changed by the progress in the natural sciences” (Hua XXIV, p. 95; 1984, p. 98).

<sup>28</sup> In the same lectures, there is a parallel treatment of the limited scientificity/rationality of pure mathematics (Hua XXIV, §31). To be sure, the theoretically unsatisfactory character of mathematics is what guided Husserl’s research since the very beginning of his philosophical career.

understand the sense of the being that is determined by physical theory, and, thus, the truth-sense of the latter.<sup>29</sup> *This is the crisis of physics.*

## 6 Conclusion

Let us summarize our results. The radical life-crisis of European humanity referred to in the title of *Part I* of the *Krisis* consists in the dissolution of the idea of universal philosophy, i.e., the idea of a self-explication of human reason able to serve as the guide for an authentic humanity. In a word, it is the crisis of reason. Such dissolution can be characterized also as the failure of philosophy, and specifically of its most important part, metaphysics, to become a science; *it is the bankruptcy of the scientificity of philosophy*. The repercussions of the dissolution of the idea of universal philosophy *on the scientificity* of positive sciences constitute *their* crisis. This overall crisis, in turn, is bound to produce visible effects on all cultural aspects of European humanity, because the essential life-form of the latter consists in the teleology of reason:

Thus the crisis of philosophy implies the crisis of all modern sciences as members of the philosophical universe: at first a latent, then a more and more prominent crisis of European humanity itself in respect to the total meaningfulness [*Sinnhaftigkeit*] of its cultural life, its total “*Existenz*.” (Hua VI, p. 91; 1970, p. 89)

The crisis of philosophy (of science in the singular) has two (properly *wissenschaftstheoretisch*) consequences for the sciences (in the plural). The first is a narrowing down of what is deemed to be a possible object of science: we are left without a science of values and norms, without a scientific political science, without a science of ultimate being (such as a rational theology). The second consequence concerns the positive sciences that have survived the crisis of reason: by losing their character as branches of a universal science, their relation to being, and thus their scientificity in the deeper sense involving the authentic rationality of their task and method, becomes questionable while still being blindly followed by the experts working in the different specialized disciplines.

Given that the crisis of philosophy coincides with the radical life-crisis of European humanity, and that the crisis of the positive sciences is a consequence (or, more properly, an aspect) of the crisis of philosophy, the radical life-crisis of European humanity *finds expression* in the crisis of the sciences.<sup>30</sup> Finally, given that only within a universal philosophy culminating in metaphysics can the positive sciences acquire significance for our life, the uprooting of the sciences from the soil of philosophy is also responsible for their widely perceived “crisis” as the loss of their significance for life: it has become unclear in what way sciences can be

<sup>29</sup> The interplay between Husserl’s late account of historicity and the problem of mathematization of nature are discussed in Hopkins (2011, pp. 83–94).

<sup>30</sup> Whence the title of *Part I* of the *Krisis: The Crisis of the Sciences as Expression [Ausdruck] of the Radical Life-Crisis of European Humanity*.

*valuable* for human existence. As to the latter fact, we can now appreciate how it is a real phenomenon that results from the overall crisis of philosophy, without deserving to be identified with the crisis proper to the sciences. From the standpoint of Husserl's philosophy, what the real significance of Western sciences for life might ultimately be can only be understood once they are unified in a phenomenological philosophy culminating in a "phenomenological metaphysics."<sup>31</sup>

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<sup>31</sup> This scheme conforms to the structure of the fourth part of *Fink's Outline for the Continuation of the Crisis* (Hua VI, p. 516; 1970, p. 400). As already mentioned, a detailed account of the way in which transcendental phenomenology can constitute a therapy for the crisis of sciences lies outside the scope of this article. It suffices here to hint at two purposes that the phenomenological elucidation of mathematical physics *per se* can serve: (1) to turn this science into an authentic science of being, *episteme*, thus satisfying our theoretical interest concerning material nature; (2) to eradicate the objectivistic misunderstanding concerning the sense of mathematization and, correlatively, the sense of being of material nature. The second task bears indeed, indirectly, a great relevance for the resolution of the crisis of Western cultural life at large, for the reasons sketched in the *Vienna Lecture* and explained in the *Krisis*, which we have briefly reconstructed. Overcoming naturalistic objectivism is the precondition for grasping the essence and the mode of being of "spirit," thus opening up the space for a truly universal phenomenological philosophy, i.e., "a completely new mode of scientific discipline [*ein völlig neuer modus von Wissenschaftlichkeit*] [...] where all conceivable questions—questions of being and questions of norm, questions of what is called 'existence' [*Existenz*—find their place." (Hua VI, p. 346, *Crisis* p. 298).

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