# Heidegger on Representation:

# the Danger Lurking in the *a Priori*

Cristina Crichton
Universidad Adolfo Ibáñez, Chile
cristina.crichton@uai.cl
https://orcid.org/0000-0002-5345-4335

**Abstract**

Heidegger's stance towards representational thinking has been widely discussed and debated. In this paper I show how based on an analysis of the mathematical in modern science in *Die Frage nach dem Ding*, Heidegger draws up a distinction between *intuitive* representations and representations *against experience*. I argue that this last type of representations corresponds to his understanding of the way in which representational thinking takes place in modernity, that is, modern representations. Based on an analysis of these two types of representation I claim that in the mid-30s Heidegger realizes that thinking being as the *a priori* carries a danger, which consists in the fact that being can break its relation with that which is given in ordinary experience and become determined by pure reason alone, and that this danger is the decisive factor underlying Heidegger's critical stance towards modern representations.

*Keywords:* Heidegger, representation, modern science, the mathematical, *a priori*, danger, ordinary experience.

Received: 13 – 03 – 2018. Accepted: 21 – 05 – 2018.
DOI: http://dx.doi.org/ 10.21555/top.v0i56.1032

# Heidegger y la representación:

# el peligro que acecha en el *a priori*

Cristina Crichton
Universidad Adolfo Ibáñez, Chile
cristina.crichton@uai.cl
https://orcid.org/0000-0002-5345-4335

**Resumen**

La visión de Heidegger acerca del pensar representacional ha sido ampliamente discutida y debatida. En este artículo muestro cómo —basándose en un análisis de lo matemático en la ciencia moderna en *Die Frage nach dem Ding*— Heidegger establece una distinción entre representaciones *intuitivas* y representaciones *contra la experiencia*. Sostengo que este último tipo de representaciones corresponde a su comprensión del modo en que el pensar representacional se da en la modernidad, esto es, la representación moderna. Basándome en un análisis de estos dos tipos de representaciones, afirmo que a mediados de los años 30 Heidegger se da cuenta de que pensar el ser como *a priori* envuelve un peligro, el cual consiste en que el ser puede romper su relación con aquello que es dado en la experiencia ordinaria y ser determinado solamente por la razón pura, y que este peligro es el factor decisivo que subyace a la visión crítica de Heidegger acerca de la representación moderna.

*Palabras clave:* Heidegger, representación, ciencia moderna, lo matemático, *a priori*, peligro, experiencia ordinaria.

Recibido: 13 – 03 – 2018. Aceptado: 21 – 05 – 2018.
DOI: http://dx.doi.org/ 10.21555/top.v0i56.1032

## I. Introduction

As is the case with most of Heidegger's key philosophical concepts, his view of representation has been widely discussed and debated. In his account of intentionality and perception, the debate has involved those who argue that the fundamental forms of intentional comportment are unmediated by mental representations, and those who think that intentionality endorses the traditional idea that the subject always relates to the world via representations.[1] In the case of Heidegger's analysis of modern science—tightly connected to his view of modern technology—his stance towards representational thinking is usually considered to be a critical one. This finds further support in the way he thinks of modernity as a whole, which is often—and for good reasons—considered a critical one too. However, Heidegger's understanding of history as the history of being goes together with his view that being is destined, that that which takes place in modernity is destined by being. This being the case, it is not at all clear that his stance towards modernity can be considered a wholly critical one. This said, I will refer to Heidegger's stance towards the way in which representational thinking takes place in modernity—modern representation—as critical.

One thoughtful analysis of Heidegger's view of modern science and modern representation is the one offered by Trish Glazebrook throughout several of her works. In *Heidegger's Philosophy of Science* (2000)

[1] In this respect, I think it interesting to bring forth the debate regarding Heidegger's antirepresentationalism, or representationalism about intentional states. According to Hubert Dreyfus and Mark Wrathall's interpretation of Heidegger's account of perception, "Heidegger's phenomenology supports a view on which the fundamental forms of intentional comportment are, at least for the most part, unmediated by mental representations" (Wrathall, 1998: 182). In contrast to this, Carleton B Christensen's interpretation of Heidegger's account of intentionality is that "Heidegger endorses the traditional idea that the subject always relates to the world via representations, provided the proper understanding of these notions" (Christensen, 1997: 79). Christensen thinks that Dreyfus' interpretation of Heidegger as a thinker who anticipates contemporary antirepresentationalist critiques of representational theories of mind is significantly based on a misconstruction of certain passages of Heidegger's works and on a lack of sensitivity to Heidegger's own intellectual context (Christensen, 1998).

she rightly emphasizes the continuity rather than the discontinuity in Heidegger's work. The question of (modern) natural science is, for her, a constant background against which Heidegger's thinking develops and grows. With this in mind, she distinguishes three phases in Heidegger's thinking on science, claiming that "[w]hat binds these three periods together, such that they are one path of thinking rather than simply three different inquiries, is the notion that science is projective" (Glazebrook, 2000: 4). On this basis, Glazebrook suggests that "the role of representation in modern science—that is, the question of how scientific projection determines its object—is the decisive factor that underlies each account" (Glazebrook, 2000: 8). According to Glazebrook, the first period is characterized by Heidegger's view that philosophy is itself scientific and that science is the mathematical projection of nature. For her, these two theses go together insofar as Heidegger takes the task of scientific philosophy to be the investigation of being as a means for establishing the regional ontologies of the sciences on sure ground. Following William McNeill's analysis in *Metaphysics, Fundamental Ontology, Metontology 1925-1935* (McNeill, 1992), Glazebrook states that in the mid-30s the *a priori* projection of being becomes problematic for Heidegger because it is a withdrawal of being.[2] When this happens, she says:

> [t]he projection of being at work in the regional ontology of science becomes likewise awkward. If phenomenological inquiry [the method of scientific philosophy] with being as its object is no longer possible since the a priori nature of such an understanding of being has been undermined, then the question of what

[2] The notion of a withdrawal of being (*Entzug des Seins*) has been widely associated with the later Heidegger. It is usually understood as an equivalent to the abandonment of being (*Seinsverlassenheit*), which in the later Heidegger is understood as the reason for the oblivion of being (*Seinsvergessenheit*). The withdrawal of being is a difficult notion in Heidegger's thinking, which means that an exhaustive account of it requires at least an article on its own. Because of this, in this article I will not deal with this notion itself, but with the idea that Glazebrook links to it, that is, that there is a problematic character of the *a priori* projection of being. Insofar as one of the results of this article will be to offer a new way of understanding this problematic character, it can pave the way for future research into the notion of the withdrawal of being itself.

> metaphysical assumptions underwrite science becomes not only sensible but also demanded: if being's withdrawal precludes its aprioricity, then on what basis can the sciences be taken to have a metaphysical grounding? It is precisely this question that Heidegger asks in *Die Frage nach dem Ding*, and which he answers with the notion of the mathematical (Glazebrook, 2000: 17).

*What is a Thing*[3] (1935/36) is for Glazebrook the work in which the early phase of Heidegger's philosophy of science finds its end. Here, Heidegger still holds that science is the mathematical projection of nature but he has untangled this thesis from the central thesis of his early view: that metaphysics is itself a science (Glazebrook, 2000: 14). This means that Heidegger has rethought the grounding relation between the two, and does so with reference to the mathematical (Glazebrook, 2000: 14, 61, 63).

As Glazebrook rightly points out, Heidegger is not strictly interested in the history of science. "Rather, his concern is with the history of being, and with human being as the location of such history" (Glazebrook, 2000: 66). In this way, his analysis of modern science intends to investigate the underlying and foundational mode of thinking that determines both the modern epoch and the modern human being. As it is well known, this is representational thinking. In light of this, Glazebrook suggests understanding the separation of philosophy and science consolidated in *WT* as the basis of Heidegger's criticism of representational thinking (Glazebrook, 2000: 25). This implies accepting the thesis that the problematic character of the *a priori* projection of being (withdrawal of being) is the basis of Heidegger's criticism of representational thinking.

I agree with this thesis. However, I think Glazebrook's analysis of representation in *WT* falls short in that it does not take notice of Heidegger's crucial distinction between *intuitive* representations and representations *against experience*, failing to see how this distinction involves the problematic character of the *a priori* and thus provides an important background for understanding Heidegger's stance towards representational thinking.

[3] Hereafter WT.

In this paper I will show that the distinction between intuitive representations and representations against experience helps us to understand the problematic character of the *a priori* in a novel way. This in turn will reveal new reasons for Heidegger's critical stance towards modern representation.

I will begin by offering a detailed analysis of Heidegger's account of the mathematical in *WT* which will distinguish the three different meanings that he gives to this notion. I will then proceed to show the specific character of the mathematical in modern science, that is, representations against experience. Finally, I will suggest a way of understanding the problematic character of the *a priori* in light of Heidegger's distinction between intuitive representations and representations against experience. I will argue that the *a priori* so understood carries a danger, and that this danger is the decisive factor underlying Heidegger's stance towards modern representations. I conclude with a few remarks on the danger lurking in the *a priori* and Heidegger's understanding of representational thinking.

## II. The three senses of the mathematical

Heidegger's reflection on the mathematical in *WT* emerges from his interrogation of the 'character of modern natural science.' He directs this inquiry towards the transformation of science involved in the rise of modern natural science. Although he thinks the transformation of science is accomplished always only through itself, he ascribes to it a twofold foundation: work experience, i.e., the direction and the mode of mastering and using what is, and metaphysics, i.e., the projection (*Entwurf*) of the fundamental knowledge of being out of which what is knowable (*wissensmässig*) develops. For Heidegger these two are reciprocally related and always meet in a basic feature of (human) attitude and of humanly being there (*einem Grundzug der Haltung und des Daseins*) (Heidegger, 1967: 66/66).[4] Therefore, what needs to be clarified is this 'basic feature' of the 'modern attitude toward knowledge' (*der neuzeitlichen Wissenshaltung*):

[4] Heidegger's texts will be cited by the English page number, followed by the German, with the only exception of the reference to 'Der Zeitbegriff in der Geschichtswissenschaft' which corresponds to the German text (See footnote 12). I have modified the English translation whenever I found it to be inaccurate or misleading.

> We entitle this fundamental feature of the modern attitude towards knowledge for which we are searching by saying: the new knowledge demand is the *mathematical* [der *mathematische*] (Heidegger, 1967: 68/68).

Heidegger explains the meaning of the mathematical with reference to Greek thought.[5] The word 'mathematical' stems from the Greek expression τὰ μαθήματα, which concerns things, and in a definite respect (Heidegger, 1967: 69-70/69-70). "In what respect are things taken when they are viewed and spoken of mathematically?"(Heidegger, 1967: 70/70-71). Following a preliminary description of μαθήματα and μάθησις as 'what is learnable' and 'learning,' respectively, Heidegger suggests that μαθήματα are the things insofar as they are learnable; insofar as we learn them. He defines learning as a kind of taking (grasping) and appropriating. By using the example of a specific thing, a weapon, he shows that learning is (1) a taking and appropriating of the use of the thing (this appropriation occurs through practice) and always also (2) a 'becoming-familiar' (*Kennenlernen*) with the thing (Heidegger, 1967: 71/71-72).

> During practice we not only learn to load the rifle, handle the trigger and aim at it, not only the manual skill, but, at the same time, and firstly (before all), we become familiar with the thing (Heidegger, 1967: 71/72).

This quote suggests that (2) has a certain precedence over (1), which is probably why Heidegger's analysis focuses almost exclusively on (2). The kind of learning signalled by (2) has different levels. In the case of the example of the weapon, these levels can be: (i) to learn ballistics, mechanics, and the chemical reaction of certain materials, (ii) to learn how the thing works and (iii) to learn what belongs to a gun as such and what a weapon is. Heidegger refers to (iii) as a more original 'becoming-familiar' (*ursprünglicheres Kennenlernen*), a 'becoming-familiar' that has to be learned beforehand (*zuvor gelernt sein muss*), so that such particular weapons as this model of gun I am using and its corresponding parts

[5] Heidegger points out that with the Greeks, from whom the word 'μαθήματα' stems, we may safely make the assumption that by keeping to the word itself, we will get to its meaning (Heidegger, 1967: 69/69).

can be at all. This 'becoming-familiar' is what makes it possible to produce the thing; and the thing produced, in turn, makes its practice and use possible (Heidegger, 1967: 72/72-73). Heidegger refers to (iii) as 'the original learning':

> The original learning [*Das ursprüngliche Lernen*] takes into cognition [*in die Kenntnis nehmen*] what a thing is, what a weapon is, and what a thing to be used is. But we already know that. We do not first learn what a weapon is when we 'become-familiar' [*kennenlernen*] with this rifle or with a certain model of rifle. We already know that in advance and must know it; otherwise we could not perceive [*vernehmen*] the rifle as such at all. Because we know in advance what a weapon is, and only in this way, does what we see laid out before us first become *visible* [sichtbar] as what it is. Of course, we know what a weapon is only in a general and in an indefinite way. When we come to know this in a *proper* [eigens] and determined way, we come to know something which we really already know. Precisely this 'taking cognizance' [*zur Kenntnis Nehmen*] is the genuine essence of learning, the μάθησις (Heidegger, 1967: 72-73/73).

This quote has an explicit description of μάθησις and an implicit one of μαθήματα. However, following Heidegger's analysis the latter is made clear:

> The μαθήματα, the mathematical, is that 'about' things which we already know. Therefore we do not first get it out of things but in a certain way, we bring it already with us (Heidegger, 1967: 74/74).

Taken together, these remarks suggest an understanding of μαθήματα and μάθησις in the following terms:

Μαθήματα:
(a) That 'about' things which we already know. Therefore, we do not first get it out of things, but, in a certain way, we bring it already with us. This is something that we know only in a general (*allgemeinen*) and in an undetermined (*unbestimmten*) way (Heidegger, 1967: 72-74/73-74).

Μάθησις:

(b) The 'coming to know' (*zur Kenntnis bringen*) of (a) in a *proper* (*eigens*) and determined (*bestimmt*) way. This is a 'coming to know' something that we already know. This 'taking cognizance' (*zur Kenntnis Nehmen*) is the genuine essence of learning: μάθησις (Heidegger, 1967: 72-73/73).

For Heidegger, what must be understood as the mathematical is what we can learn in the way signalled by (b) (Heidegger, 1967: 75/75). As it has become clear, this *what* corresponds to (a). However, there is still one more step in order to complete Heidegger's analysis of the mathematical. This consists in unfolding the full sense of the respect in which the expression τὰ μαθήματα concerns things:

> The μαθήματα are the things insofar as we take cognizance of them [*in die Kenntnis nehmen*] as what we already know them to be in advance, the body as the bodily, the plant-like of the plant, the animal-like of the animal, the thingness of the thing, and so on (Heidegger, 1967: 73/73).

Heidegger unfolds the meaning of the mathematical in terms of a 'fundamental position we take toward things.' More specifically, he states that the mathematical always has two meanings:

> (1): the mathematical is that evident aspect of things within which we are always already moving and according to which we experience them as things at all, and as the things that they are (*als Dinge und als solche Dinge erfahren*) (Heidegger, 1967: 75/76).
>
> (2): the mathematical is that fundamental position toward things (*Grundstellung zu den Dingen*), in which we take up (*vor-nehmen*) things as they are already given to us, as they must and should be given to us (Heidegger, 1967: 75/76).

It is clear that the mathematical in terms of (a) and (1) coincide. However, (b) and (2) are not the same. (2) involves the determination of *our fundamental way of relating* to things whereas (b) corresponds to the *process of learning* what a thing is. For the sake of the analysis that I will

carry out in the final section of this paper, it is important to notice that (2) is grounded in (1) / (a), since we can only take up things as they are already given to us if there is something about them already given to us. The same reasoning applies to (b), which is clearly grounded in (1) / (a). Thus, I suggest that there are three senses of the mathematical at stake in *WT*: (1) / (a), (b) and (2), with (1) / (a) being the condition of the possibility of (b) and (2).

Although (a) and (b) are two easily recognizable different senses of the mathematical, this is not so in the case of (2). Nevertheless, I think that admitting three senses of the mathematical is crucial for accomplishing Heidegger's general aim in *WT*, i.e., to address the question 'what is a thing?' in a historical manner (Heidegger, 1967: 40/39). For him, the different formulas and definitions of the essence of the thing over time are only the residuum and sediment of the basic positions (*Grundstellungen*) taken by historical human being (*geschichtliches Dasein*) toward and in the midst of beings taken as a whole. Thus, to address this question historically is to ask about these basic positions (Heidegger, 1967: 44/42). To do this, Heidegger thinks it necessary to experience both the basic position of the Greeks and the initial transformation of the hitherto existing position toward things (Heidegger, 1967: 50/48-49). To experience this transformation "… requires that we perceive more exactly with clearer eyes what most holds us captive (*gefangen*) and makes us unfree (*unfrei*) in the experience and determination of the things. This is modern natural science, insofar as it has become a universal way of thinking along certain basic lines. The Greek origin also governs this, although changed, yet not alone and not predominantly"(Heidegger, 1967: 50-51/49). Clearly then, Heidegger's questioning about the 'character of modern natural science' is intended to get to this transformed 'basic position' toward things. This is the mathematical in terms of (2). Because of this, it is only in relation to (2) that Heidegger's later peculiar treatment of 'the will of the mathematical'—fundamental for grasping the scope of his analysis of modern representation in *WT*—can make sense. This is why it is important to distinguish this sense of the mathematical. I will address this issue in the final section of this paper.

Heidegger's description of the mathematical in terms of (a) and (b) opens up some relevant questions, such as: what kind of knowledge is that is involved in (a)? What determines the occurrence of (b)? To what extent is it possible to give a separate account of (a) and (b)?

Unfortunately, Heidegger does not refer to these issues in *WT*. However, it is relevant to make two remarks regarding Heidegger's description of the mathematical so far. Usually, *WT* commentators do not differentiate between Heidegger's analysis of the mathematical in terms of (a) and (b) and if they do, they do not distinguish sense (2). However, this does not preclude them from grasping the general character of this analysis, which consists in understanding the mathematical in a 'basic sense' as 'all the necessary conditions for the possibility of recognizing a thing as what it is' (Roubach, 2008: 84).[6] According to Theodore Kisiel—probably the author who offers the most elaborated analysis of Heidegger's different senses of the mathematical—the mathematical in terms of (a) corresponds to 'any apriori knowledge whatsoever' and (b) to the process of learning in which we come to know (take cognizance of) the

[6] As Barton points out, for Heidegger, this basic sense of the mathematical is 'larger than mathematics as the science of calculation itself' (Barton, 1973: 21). This being the case, why does mathematics—which Heidegger calls the 'narrow sense' of the mathematical (Heidegger, 1967: 76/77)—become the most familiar form of the mathematical and thus the mathematical itself? Heidegger addresses this problem by recourse to his understanding of the basic sense of the mathematical: because in our usual dealing with things, when we calculate or count, numbers are the closest to that which we recognize in things without creating it from them, they are the most familiar form of the mathematical (Heidegger, 1967: 75/75): 'We see three chairs and say that there are three. What "three" is the three chairs do not tell us, nor three apples, three cats nor any other three things. Moreover, we can count three things only if we already know "three". In thus grasping the number three as such, we only expressly recognize something which, in some way, we already have' (Heidegger, 1967: 74/74-75). Michael Roubach offers an analysis of Heidegger's understanding of the relation between the mathematical and numbers. According to Roubach, Heidegger thinks that the realms of number and geometric form 'manifest the essential character of the mathematical in the most unequivocal way. We cannot count unless we have a concept of what a number is' (Roubach, 2008: 84). Hence, Heidegger's analysis of the mathematical entails that the essence of the mathematical does not lie in number but the other way around: because number has such a nature, therefore it belongs to what is learnable in the sense of μάθησις (Heidegger, 1967: 75/75-76). Therefore, the numerical meaning of 'the mathematical' is derived from the basic meaning which Heidegger assigns to this concept in terms of (a) and thus, it is dependent on it. In other words, Heidegger understands numbers as the clearest expression of the mathematical in terms of (a).

prior knowledge designated by (a) (Kisiel, 1973: 109).[7] In light of this, the first remark I want to make is that (a) and the corresponding occurrence of (b), places us in the realm of the concepts or representations of things. This will become clearer in Heidegger's treatment of the mathematical in modern science in these terms in the next section of this paper. Secondly, given that (a) is what determines that what we see in front of us first becomes *visible as* what it is, a change in (a) will necessarily involve a change in the way things become *visible* for us.

The analysis of the mathematical so far makes it clear that this concept has a Greek origin. As Glazebrook points out, Heidegger does not say which Greeks he is referring to in his discussion of the mathematical. However, she thinks it clear that he is echoing Plato's *Meno* (Glazebrook, 2000: 51), as does Kisiel (1973: 110). Hence, with the mathematical in terms of (a) Heidegger has in mind Plato's *Idea* while (b) points to Plato's 'reminiscence theory' of knowledge (Kisiel, 1973: 110). In fact, Heidegger explicitly refers to (b) as Socrates' constant doing: "Socrates had no other topic than what the things are…[he was always] saying the same thing about the same thing" (Heidegger, 1967: 74/74). As Glazebrook makes clear, Heidegger thinks Plato is 'the discoverer of the *a priori* who expresses that discovery in his doctrine that learning itself is nothing but recollection' (Glazebrook, 2000: 29).[8] In light of this, Kisiel's understanding of (a) as 'any apriori knowledge whatsoever' seems a very sensible interpretation. Yet, what is it that has changed since the Greek origin of this concept that in modernity constitutes 'what most holds us captive and makes us unfree in the experience and determination of the things'?

## III. The mathematical in modern science: representations against experience

Heidegger continues his analysis by focusing on the transformation of science involved in the rise of modern natural science. As Michael Roubach puts it, 'Heidegger extracts the mathematical nature of modern science from the law of inertia as presented in Newton's *Principia*' (Roubach, 2008: 85):

[7] Note that Kisiel uses the expression 'apriori.'

[8] Cfr. Heidegger (1982: 326/463-464).

> Every body continues in its state of rest, or uniform motion in a straight line, unless it is compelled to change that state by force impressed upon it (Heidegger, 1967: 78/79).

Heidegger thinks of the discovery and establishment of this law as one of the greatest revolutions in human thought, and one which first provides the ground for the turning from the Ptolemaic to the Copernican conception of the universe (Heidegger, 1967: 79/79-80). During the preceding fifteen hundred years, he thinks, scientific-conceptional thought (*begrifflich-wissenschaftliche Denken*) was specially guided by those fundamental representations (*Grundvorstellungen*), fundamental concepts (*Grundbegriffe*) and fundamental principles (*Grundsätze*) which Aristotle had set forth in his lectures on physics and the heavens (*De Caelo*), and which were taken over by the medieval Scholastics (Heidegger, 1967: 80/81). Consequently, Heidegger approaches the task of explaining the character of the mathematical in modern science by indicating the way in which this fundamental law relates to the earlier *conception of nature.* He does this by comparing *the experience of nature* in Aristotle and Newton through the differences between their doctrines of motion.

Heidegger thinks that both Aristotle and Newton had a similar basic attitude toward procedure (*Grundhaltung im Vorgehen*). For both, the basic principle of scientific method was the observation of phenomena themselves, and the subsequent inference to propositions by general induction (Heidegger, 1967: 80-82/81-83).

> But despite this similar attitude toward procedure, the basic position of Aristotle is essentially different from that of Newton. For *what* is in each case apprehended as appearing and at the same time *how* it is interpreted, are not the same [*denn* was *jeweils als Erscheinendes gleichsam festgenommen und* wie *es ausgelegt wird, ist hier und dort nicht das Gleiche*] (Heidegger, 1967: 82/83).

This means that the way in which things become *visible* for Aristotle and the way in which things become *visible* for Newton is different. This entails that the mathematical in terms of (a) is different in both of them. As I will argue below, the change of (a) and the corresponding occurrence

of (b) from Aristotle to Newton, is a change from 'representations' to 'modern representations.'

At the centre of Heidegger's brief exposition of Aristotle's fundamental conceptions about nature and motion is the fact that *how* a body moves is determined by its *nature*, and that this nature itself is entirely attached to the *place* to which the body belongs: "Each body has *its* place *according to its kind*, and it strives towards that place" (Heidegger, 1967: 83/84). This is why the purely earthly body (like a rock) moves downward and the purely fiery body (as every blazing flame) moves upward, because the earthly has its place below and the fiery above (Heidegger, 1967: 83/84). Heidegger compares Aristotle's fundamental conceptions about nature and motion with the ones involved in Newton's first law by establishing eight differences between them (Heidegger, 1967: 86-88/87-89). All the changes that these differences suggest (e.g.: change in the concept of nature and change in the manner of questioning nature) are linked together and uniformly based on *the new basic position* expressed on the first law and which Heidegger calls 'mathematical' (Heidegger, 1967: 88/89). The sense in which the mathematical becomes decisive in Newton's first law is expressed by the fact that it:

> …speaks of a body, *corpus quod a viribus impressis non cogitur*, a body which is left to itself. Where do we find it? There is no such body [*Einen solchen Körper gibt es nicht*]. There is also no experiment which could bring such a body to intuitive representation [*Es gibt auch kein Experiment, das jemals einen solchen Körper in die anschauliche Vorstellung bringen könnte*]…This law speaks of a thing that does not exist. It demands a fundamental representation of things [*Grundvorstellung von den Dingen*] which contradicts the ordinary [*gewöhnlichen widerspricht*] (Heidegger, 1967: 89/89-90).

As most commentators notice, the crucial issue for Heidegger here is that he thinks that there is no way in which this law can be interpreted as being derived from our ordinary experience, given that it applies to something that does not exist: a body not impressed by any external force (Roubach, 2008: 85; Glazebrook, 2000: 87). From this last quotation, and following the contrast Heidegger makes with Aristotle, I think Heidegger understands Aristotle's fundamental representations of things as *representations that do not contradict the ordinary experience:*

*intuitive representations,* whereas, on the contrary, he understands Newton's law as a *representation of things that contradicts the ordinary experience.* Given that Heidegger's analysis of modern science is not limited to the understanding of nature that arises from modern physics but extends to modernity as a whole, I suggest that this last type of representations corresponds to Heidegger's understanding of *modern representations*.

In light of the problematic relationship between Newton's law and ordinary experience, Heidegger describes the specific character of the mathematical in modern science in the following way:

> The mathematical is based on such a claim, i.e., the application of a determination of the thing, which is not experientially created [*die nicht erfahrungsmässig aus diesem selbst geschöpft ist*] out of the thing and yet lies at the base of every determination of the things, making them possible and making room for them (Heidegger, 1967: 89/90).

As Roubach points out, the determination of a thing's motion in advance, prior to any sensory perception of it and against the evidence of experience, is for Heidegger the mathematical component of modern physics (Roubach, 2008: 85). Such a *fundamental conception of things*, i.e., a representation of things that contradicts the ordinary—which is against the evidence of experience—is neither arbitrary nor self-evident. This is why it required a long controversy to bring it into power (Heidegger, 1967: 89-90/90). In order to characterize this controversy Heidegger refers to Galileo's experiment with free fall. In this analysis, we can distinguish two levels of what may be called 'advanced knowledge':

1. Galileo's *mente concipere*: I think in my mind of a body thrown on a horizontal plane and every obstacle excluded. This results in what has been given a detailed account in another place, that the motion of the body over this plane would be uniform and perpetual if this place were extended infinitely. Heidegger thinks of it as the antecedent of the First Law of Newton (Heidegger, 1967: 91/91-92).

2. Galileo's proposition: All bodies fall equally fast and that the differences in the time of fall only derive from the resistance of the air. This corresponds to Galileo's hypothesis (Heidegger, 1967: 90/90).

Guided by this hypothesis, Galileo did his experiment at the leaning tower in the town of Pisa. In spite of the differences in time at which the different bodies arrived after having fallen from the tower and therefore, really *against* the evidence of experience (Heidegger, 1967: 90/90), says Heidegger, Galileo upheld his proposition.

> Both Galileo and his opponents saw the same "fact." But they interpreted the same fact differently and made the same happening visible to themselves in different ways. Indeed, what appeared for them as the essential fact and truth was something different (Heidegger, 1967: 90/91).

The reason for this disagreement is that both thought something different regarding the essence of a body and the nature of its motion (Heidegger, 1967: 90/91). In the case of Galileo, this is expressed in his *mente concipere*, which, as the antecedent of Newton's first law, *constitutes a determination of the essence of a body and the nature of its motion that contradicts the ordinary, which is against the evidence of experience*. Galileo upholds his hypothesis *against* the evidence of experience, because his hypothesis is guided by and built on his *mente concipere*. I think it is clear that this 'thinking in my mind' a determination of things *prior to and against the evidence of ordinary experience* is for Heidegger the specific character of the mathematical in modern science.

On this basis, Heidegger summarizes the mathematical essence of modern science in six points. I will concentrate on points one and five because they are explicit in showing that the mathematical has a problematic relation with ordinary experience:

In point one Heidegger states that "the mathematical is, as *mente concipere*, a project (*Entwurf*) of *thingness* which, as it were, leaps past (*hinwegspringender*) the things. The project first opens a domain (*Spielraum*) where things—i.e., facts—show themselves" (Heidegger, 1967: 92/92). As George Pattison points out, "[m]athematics is projective, in that it runs on ahead of actual experience, determining in advance and entirely in terms of its own self-determining laws what can and cannot count as knowable" (Pattison, 2000: 93). This means that the projection of the relevant domain that representations against experience involve (given their mathematical basis) is a projection that in some way is against that same domain. In other words, it means that the mathematical in modern

science, arguing against the evidence of ordinary experience, is actually able to determine experience. How is this possible? A way of making sense of this is Glazebrook's proposal of the violence that takes place in modern science. According to Glazebrook, Heidegger thinks that physics is an encroachment of the real in that "nature has in advance to set itself in place for the entrapping securing that science, as theory, accomplishes" (Glazebrook, 1998: 255).[9] The picture painted in science is reductive and never complete, she says. Scientific representation "is never able to encompass the coming to presence of nature; for the objectness of nature is, antecedently, only *one* way in which nature exhibits itself" (Glazebrook, 1998: 255).[10] In this way, says Glazebrook, physics gets at the real, but in doing so it encroaches upon nature by confining it reductively as object. In this sense, she suggests that modern science is essentially violent for Heidegger (Glazebrook, 1998: 255). Thus, the word against in representations against ordinary experience should be understood as forcing beings to show in a way that restricts their being. Based on this, the reason for Heidegger's view that modern science is what most makes us unfree in the experience of things is that we relate to all things as objects, a way which appears to exhaust reality (Glazebrook, 2001: 375). I think this is right. In fact, in the Introduction to *WT* Heidegger defines three different meanings of the word 'thing' and delimits his question to 'the narrower one,' i.e., present-at-hand beings (*Vorhandenes*). This includes all inanimate and all animate things, such as a watch, a rose and a lizard (Heidegger, 1967: 6/6). He has two reasons for this stipulation: the narrower signification is closer to our current linguistic usage, and the question concerning the thing, even where it is understood in its 'wider' (plans, decisions, historical things, etc.) and 'widest' (God, numbers, etc.) meanings, mostly aims at this narrower field and begins from it (Heidegger, 1967: 5-7/5-7). He continues to describe the narrow meaning to which he will refer as "…the things around us…what is most immediate, most capable of being grasped by the hand" (Heidegger, 1967: 7/6), and he suggests that modern science's way of dealing with things leave behind the things immediately around us (Heidegger, 1967: 20/19). Thus, what Heidegger thinks that modern

[9] Cfr. Heidegger (1977: 172-173/54).

[10] Cfr. Heidegger (1977: 174/56).

science does to things in its narrow sense somehow transfers to things in its wider and widest sense, that is, to all things.

In point five Heidegger argues that natural bodies are now only what they *show* themselves as within this mathematically projected realm of nature. Thus, he says, 'the project also determines the mode of taking in and studying of what shows itself, experience, the *experiri*. Because inquiry is now predetermined by the outline of the project, a line of questioning can be instituted in such a way that it poses conditions in advance to which nature must answer in one way or another. Upon the basis of the mathematical, the *experientia* becomes modern experiment.' This suggests that throughout his analysis of Newton's first law of motion and Galileo's *mente concipere*, Heidegger employs the word experience in the sense of *experientia* and not in the sense of modern experiment. The Aristotelian background against which Heidegger carries out his analysis of the mathematical suggests that his understanding of the word *experientia* is closely related to his understanding of Aristotelian *empeiria*, which is for Heidegger "phenomenological in the sense that it looks to the thing under inquiry to show itself" (Glazebrook, 1998: 250). This means that the type of experience towards which representations against experience are against, is *experientia* and not *experiri*. Because of this, I think that Glazebrook rightly understands Heidegger's contrast between *experientia* and modern experiment as the one between ordinary experience, and empirical evidence: "[a]lthough modern science appeals to the empirical in the experiment, it does not in fact appeal to ordinary experience. Rather, it appeals to an isolated, controllable empirical situation. Modern science returns to the empirical only insofar as it separates the empirical from ordinary experience" (Glazebrook, 2000: 71).

Although Glazebrook does not distinguish between intuitive representations and representations against experience—and neither, as far as I have been able to discover, does any other commentator—she is aware that the notion of representation in the context of Heidegger's analysis of the mathematical in modern science has a specific character. This is why she states that she addresses "the question of representation in science insofar as that representation is mathematical" (Glazebrook, 2000: 71). Though Glazebrook does not distinguish between the three meanings of the mathematical, her account is generally in terms of (a). On this basis, she interprets Heidegger's understanding of the mathematical in *WT* as that which carries epistemic certainty. Reason, Glazebrook says,

is certain of its own creation, "Heidegger means by the mathematical not just what is projective, but also what carries epistemic force. His phrase 'the mathematical projection of nature' can be read as 'the epistemically certain projection of nature.' He is interested in showing how nature is projected in modern physics as something about which certainty can be had" (Glazebrook, 2000: 52). I agree with Glazebrook in that what I, following Heidegger, designate as representations against experience is fundamentally connected to the notion of certainty. I will come back to this in the next section of this paper. However, the fact that she does not distinguish between intuitive representations and representations against experience makes her miss an important background for better understanding Heidegger's stance towards representational thinking, as I will argue in what follows.

## IV. Representations against experience and the problematic character of the *a priori*

In paragraph 10 of *The Metaphysical Foundations of Logic*[11] (1928), entitled: 'The problem of transcendence and the problem of *Being and Time*,' Heidegger restates that the understanding-of-being is the basic problem of metaphysics as such, and highlights the intrinsic necessity of addressing this problem in its relation to time. Therefore, he focuses on the sense in which this understanding is prior:

> In an obscure sense, being is prior. It grows clearer, in a certain way, if we refer to something else that Plato, in particular, saw in his doctrine of ἀνάμνησις. Being is what we recall, what we accept as something we immediately understand as such, what is always already given to us; being is never alien but always familiar, 'ours.' Being is, accordingly, what we always already understand, and we only need to recall it once again to grasp it as such. In grasping being we do not conceive anything new, but something basically familiar; we always already exist in an understanding-of-being, insofar as we relate to what we now call 'beings' (Heidegger, 1984: 147/186).

[11] Hereafter MFL.

From this quote, it is clear that in 1928 Heidegger takes Plato to be a thinker who grasped the fact that we have a prior understanding of being. Commensurate with this, in his work *The Basic Problems of Phenomenology* (1927), Heidegger refers to Plato as "the discoverer of the *a priori* who expresses that discovery in his doctrine that learning itself is nothing but recollection" (Heidegger, 1982: 326/463-464), and he says this precisely in the context of addressing the problem of our prior understanding of being in its relation to time. In brief, in 1927-1928 Heidegger thinks Plato is a thinker to whom we can legitimately refer in order to understand the problem of our prior understanding of being, that is, the basic problem of metaphysics as such.

Recall that in *WT* Heidegger defines 'the mathematical' in terms of (a) as that 'about' things which we already know and, therefore, we do not first get it out of things, but, in a certain way, we bring it already with us. In other words, (a) is our prior understanding of entities not derived from our encounter with them, that is: our prior understanding of being. As I have pointed out, in *WT* Plato's *Idea* is the unmentioned but evident reference for what Heidegger means by (a) and, in line with this, the mathematical in terms of (b) points to Plato's 'reminiscence theory' of knowledge. In brief, in the mid-30s Plato is seen as a thinker to whom we can legitimately refer in order to understand 'the mathematical' (our prior understanding of being).

I think that Heidegger's reference to ontological issues in terms of the mathematical in *WT* shows that his view of the basic notion of a prior understanding of entities not derived from our encounter with them is not continuous between the late 20s and the mid-30s. I suggest that this discontinuity supports Glazebrook's view that the *a priori* has a problematic character. In what follows I will show how the distinction between intuitive representations and representations against experience involves the problematic character of the *a priori* and, in so doing, sheds new light on Heidegger's stance towards representational thinking.

I think that it is clear that Heidegger's stance towards representations against experience is critical. By contrast, he is never explicit with respect to his stance towards intuitive representations. However, I think it right to say that insofar as intuitive representations are the type of representations which Heidegger assigns to Aristotle's thinking in *WT*, and so are the background against which he develops his view of representations against experience, it seems right to say that his stance towards this type of representations is a sympathetic one. In fact,

Heidegger's sympathetic attitude towards Aristotle's thinking recurs throughout his work. In the context of Heidegger's analysis of modern science, it is seen in his repeated contrast between ancient and modern science. As Glazebrook points out, in the 1930s, Heidegger argues "that the transition from the ancient experience of nature to that of Galileo and Newton is the move from a realism in which φύσις, nature, is *a priori*—that is, prior to thought—to an idealism in which the *a priori* formulation of a hypothesis precedes the investigation of nature"(Glazebrook, 2000: 6). However, as Glazebrook is also aware, "Heidegger began thinking through the difference between ancient and modern science as early as 1916 in *Der Zeitbegriff in der Geschichtswissenschaft.* Here he noted that in ancient natural philosophy, Aristotle 'searched for the metaphysical essence and hidden causes arising in immediate actuality (*unmittelbaren Wirklichkeit*)'" (Glazebrook, 1998: 250).[12] As Glazebrook points out, in Heidegger's view, observation for Aristotle consists in seeing how things behave in their natural context (Glazebrook, 1998: 251). As she states, this is a view that Heidegger sustains in 1916 as well as in 1938 in a work like *The Age of the World Picture* (Glazebrook, 1998: 250-251). Heidegger's association of Aristotle's thinking on science with 'immediate actuality' and/or 'the natural context' argues in favour of associating intuitive representations with these two notions, which reinforces the idea that he has a sympathetic stance towards this type of representations.

Given Heidegger's description of (a) as "that 'about' things which we already know and that therefore, we do not first get it out of things, but, in a certain way, we bring it already with us," it appears that intuitive representations are determinations of the things that, in accordance with (a), we do not first get out of things, *but despite this*, they are somehow experientially created out of the thing since they do not go against the evidence of ordinary experience. On the other hand, it appears that representations against experience are determinations of the things that, in accordance with (a), we do not first get out of the things and, *accordingly*, following Heidegger's description, they are not experientially created out of the thing since they do go against the evidence of ordinary experience.

This scenario opens up the following question: since the mathematical, by its original Greek—ontological—definition in terms of (a) involves a

[12] Glazebrook's own translation. See Heidegger, 'Der Zeitbegriff in der Geschichtswissenschaft' (1978b: 418-419).

knowledge that is not taken out of things, can representations against experience be understood as the development and fulfilment of this concept? I think they can; and if so, the mathematical in terms of (a) would be the condition of the possibility of the specific character of the mathematical in modern science, i.e., of representations against experience. This would imply that the mathematical does not become a problem for Heidegger only in its modern expression but also in its Greek—ontological—definition. Indeed, I suggest that this is the reason for Heidegger's reference to ontological issues in terms of the mathematical in *WT*. In other words, it is because the ontological itself becomes problematic for Heidegger that he uses the implicitly derogatory expression 'the mathematical' to refer to it.

Kisiel had already realized that Heidegger's understanding of the mathematical points to his own way of understanding ontological issues: "In more ways than one, there seems to be an overlap between the mathematical and the hermeneutical as conceived by Heidegger. In its apriori knowledge, in its making explicit of something that is already implicit, in its circular structure, in its 'always saying the same about the same,' the mathematical is strongly reminiscent of Heidegger's own way of thinking, which he is more prone to call hermeneutical than mathematical. And yet, at least one interpreter has been led to assert that *Being and Time* itself is in fact mathematical in Heidegger's own sense" (Kisiel, 1973: 110).[13]

However, what does it mean to talk about a 'fulfilment' of a concept? Heidegger addresses this question in *WT* with recourse to the notion of 'will' (*Wille*). For him, the mathematical has a *will* to a self-grounding of knowledge that involves the rejection of the pre-given (*vorgegebene*).[14] He also refers to this *will* as the 'own inner drive' (*inneren Zug*) of the mathematical (Heidegger, 1967: 97/97). By recourse to the notion of 'will,' Heidegger is clearly personalizing the mathematical. Although this looks extremely odd at first sight, it does not if we consider his understanding of the mathematical in terms of a fundamental position *we* take towards things. Given that this last understanding of the mathematical, i.e., the mathematical in terms of (2), is grounded in the mathematical in terms

[13] The interpreter to which Kisiel refers is Laszlo Versenyi (Versenyi, 1965: 78-79).

[14] Heidegger's treatment of the will of the mathematical is carried out in sections 4.f.1 and 4.f.2 of *WT* (Heidegger, 1967: 96-106/96-106).

of (1)/(a), the notion of 'the will of the mathematical' involves (1)/(a). Therefore, I think representations against the evidence of experience —modern representations—can be understood as a fulfilment of the mathematical. Moreover, Heidegger is clear in stating that every sort of thought—including modern thought whose fundamental trait is the mathematical—"is always only the execution and consequence of the historical mode of human being (*Dasein*) at that time, of the fundamental position taken toward what is and toward the way in which what is, is manifest as such, i.e., to the truth" (Heidegger, 1967: 95-96/96).

Heidegger's treatment of the will of the mathematical is fundamentally connected to the notion of truth as certainty. For him, the will of the mathematical to a self-grounding of knowledge that involves the rejection of the pre-given is a will for certainty. Therefore, Glazebrook's understanding of 'mathematical representation' (her equivalent to representations against experience), as that which carries epistemic force, is without doubt accurate. In fact, Heidegger's understanding of Descartes' thinking (the thinker who Heidegger constantly links to truth as certainty) as a result of the will of the mathematical supports this view:[15]

> Descartes does not doubt because he is a skeptic; rather, he must become a doubter because he posits the mathematical as the absolute ground and seeks for all knowledge a foundation that will be in accord with it. It is a question not only of finding a fundamental law for the realm of nature, but finding the very first and highest basic principle for the being of what is, in general. This absolutely mathematical principle cannot have anything in front of it and cannot allow what might be given to it beforehand (Heidegger, 1967: 103-104/104).

In light of this, Heidegger continues to assert that the only thing that the mathematical accepts as given is the proposition in general as such, and he says this in the context of addressing the traditional relation between the proposition and things: "According to tradition…[t]he simple proposition about the simply present things contains and retains

[15] See section 4.f.2 of *WT* in light of section 4.f.1 (Heidegger, 1967: 96-106/96-106).

what the things are" (Heidegger, 1967: 103/103). But this relation is broken in Descartes' thinking insofar as "there can be no pre-given things for a basically mathematical position" (Heidegger, 1967: 103/103). The focus is thus placed on the proposition: "The positing, the proposition, only has itself as that which can be posited. Only where thinking thinks itself, is it absolutely mathematical, i.e., a taking cognizance of that which we already have" (Heidegger, 1967: 104/104). According to Heidegger, when thinking and positing directs itself toward itself, it finds that "whatever and in whatever sense anything may be asserted, this asserting and thinking is always an '*I* think.' Thinking *is* always an '*I* think,' *ego cogito*. Therein lies: I am, *sum*. Cogito, *sum*–this is the highest certainty lying immediately in the proposition as such" (Heidegger, 1967: 104/104). In terms of the above quote, this means that Descartes' *cogito sum* is the absolutely mathematical principle which does not depend of any given thing and at the same time stands as the highest basic principle for the being of what is.

Heidegger's reference to a philosopher in his analysis of the mathematical in relation to modern science is not surprising given his view about the relation between the mathematical and metaphysics: "… modern natural science, modern mathematics and modern metaphysics sprang from the same root of the mathematical in the wider sense" (Heidegger, 1967: 97/98). By modern metaphysics, Heidegger means rational metaphysics, whose origin he places in Descartes' thinking and whose paradigmatic expression he finds in Leibniz's thinking (Heidegger, 1967: 108-119/108-120). What is noteworthy is his reference to the 'pre-given' or to something 'given beforehand' in reference to the will of the mathematical and Descartes' *cogito sum*. These expressions are not equivalent to the expression 'already given' involved in the definition of the mathematical in terms of (a), since the former expressions do not point to an *a priori* knowledge as the latter expression does, but rather to 'simply present things.' Insofar as 'things' in this context cannot mean 'things mathematically determined' or 'things determined by modern science' (given that Heidegger is precisely accounting for the traditional, that is, pre-modern relation between propositions and things), I suggest that the expressions 'pre-given' or 'given beforehand' in reference to the will of the mathematical and Descartes' *cogito sum* point to that which encounters us in ordinary experience. As Kisiel clearly points out, "[t]he *mathesis* is the realm of pure reason independent of experience, which in its projects and from its concepts alone decides in advance what a

thing is, without consideration of things encountered in the confusion of experience. Whence Leibniz could so pithily mark of this domain by his famous emendation to the Aristotelian dictum: 'There is nothing in the intellect which is not first in the senses…except the intellect itself'"(Kisiel, 1973: 111).

With this in view, and following Kisiel in understanding the mathematical in terms of (a) as 'any apriori knowledge whatsoever,' I think the analysis so far reveals that the *a priori* has an inner tendency to *break* with ordinary experience and become determined by *pure reason alone*, and that this determination is accomplished in representations against experience. The determination of the *a priori* by pure reason alone is a central focus of criticism in Heidegger's thinking on modernity since it is *the* expression of the mathematical way of thinking. In other words, it is the inner tendency of the *a priori* to become determined by pure reason alone that makes the ontological itself become problematic for Heidegger. This in turn explains why he uses the expression 'the mathematical' to refer to ontological issues that were earlier referred to as 'ontological,' since the former expression carries within itself the problematic character of the *a priori*, that is, the problematic character of the ontological.

If the very idea of an *a priori* understanding of being becomes problematic for Heidegger because it may turn into a determination of being out of pure reason alone, this is likely to strengthen his appreciation for 'the given' in ordinary experience.[16] This supports Glazebrook's proposal that that there is a tendency towards realism in Heidegger's thinking. However, she thinks that Heidegger was always a realist, but that his realism developed from naïve realism to a robust realism, a development for which his insight into the problematic character of the *a priori* is crucial (Glazebrook, 2001). As Glazebrook

[16] This could nicely fit with Laureen Freeman's interpretation of Heidegger's introduction of the notion metontology (*Metontologie*) in *MFL* a year after *Being and Time*. Heidegger defines metontology as a special and new investigation which has for its proper theme beings as a whole (Heidegger, 1984: 157/199). Freeman thinks that metontology betrays a concern for the ontic domain on the part of Heidegger which is not present in *Being and Time.* Based on this, she suggests that Heidegger's (increasing) concern for the ontic after *Being and Time* is at the heart of his turning away from fundamental ontology (Freeman, 2010).

points out, "… as long as Heidegger raises the question of being as a question of human understanding—specifically, as the *a priori* projected in scientific understanding—he cannot extricate the question of being from the history of idealism, from Kant's *a priori*. If being is taken as a concept, metaphysics remains embroiled in the web of transcendental subjectivity in which concepts are to be found. That *Being and Time* and *Basic Problems of Phenomenology* were never completed is not symptomatic of Heidegger's failure, but of his eventual insight that being is not prior *in* human understanding, but rather prior *to* human understanding" (Glazebrook, 2000: 45-46). The idea that being is prior *to* human understanding is one that Glazebrook relates to different issues such as Heidegger's later understanding of being as φύσις, issues which in her interpretation demonstrate Heidegger's commitment to realism (Glazebrook, 2001: 369-376). But Glazebrook's understanding of realism in Heidegger's case is not conventional. She suggests that Heidegger is a realist who nonetheless holds antirealist assumptions: "His realist commitment to the transcendent actuality of nature goes hand in hand with the thesis that human understanding is projective, and its corollary that the idea of a reality independent of understanding is unintelligible" (Glazebrook, 2001: 362). In this way, Glazebrook thinks that Heidegger's realism exchanges the either/or of realism/antirealism for a both/and (Glazebrook, 2001: 362).

In light of my analysis so far, it seems clear that thinking being as the *a priori* carries a *danger*. This danger consists in the fact that being can break its relation with that which is given in ordinary experience and become determined by pure reason alone. Since Heidegger thinks Plato is the discoverer of the *a priori*, the view that the *a priori* carries a danger necessarily entails calling Plato's *Idea* into question which is what Heidegger does in several works.[17] In relation to this, further to his view that the mathematical in terms of (a) corresponds to 'any apriori knowledge whatsoever,' Kisiel suggests that (a) corresponds to

[17] For example, in 'Metaphysics as the History of Being' Heidegger argues that although temporally speaking, Plato is closer to the primordially decided essence of being (presencing in unconcealment) than Aristotle, metaphysically speaking, Aristotle is closer to it than Plato. The reason for this is that, by focusing on *idea*, Plato can never admit the individual being as what is truly in being, whereas by focusing on *energeia*, Aristotle conceives the individual together with presencing (Heidegger, 2003: 9-10/409).

'whatness.' He goes on to claim that Plato's *Idea* (whatness) is decisive for the direction later taken by modern philosophy, and highlights that the critical point of this latent knowledge which makes learning and inquiry possible is that it is not taken out of things but rather taken out of oneself, as Plato explicitly states (Kisiel, 1973: 110). The critical point that Kisiel here identifies goes together with my idea of the danger lurking in the *a priori*: if the *a priori* (Plato's *Idea* / whatness) were taken out of things (and not only out of oneself), it would not be possible for it to break with ordinary experience and become determined by pure reason alone. In other words, because the *a priori* is only taken out of oneself (and not out of things), it can (and according to the will of the mathematical it *should*) turn into a determination of being out of pure reason alone; it should turn into a representation against the evidence of ordinary experience.

I will conclude by making a few remarks on the danger lurking in the *a priori* and Heidegger's understanding of representational thinking. Heidegger's critical stance towards representations against experience and his sympathetic stance towards intuitive representations suggest that his view of representational thinking depends on the types of representation in question. However, the proposal that representations against experience are a fulfilment of the mathematical in terms of (a)–the ontological–together with the idea of a 'will' of the mathematical, entails that intuitive representations should turn into representations against experience. This implies that Heidegger's stance towards intuitive representations cannot be thought of as an entirely sympathetic one. If we advance from here to the conclusion that Heidegger's stance towards intuitive representations is critical, then, based on the analysis offered in this paper, the notion of the *a priori* itself is seriously undermined. Does Heidegger's thinking allow the abandonment of the a priori? I think not. Even Glazebrook believes that her interpretation of Heidegger as a robust realist has to coexist with the thesis that human understanding is projective. I suggest that Heidegger's sympathetic stance towards intuitive representations, together with the idea that these types of representation should turn into representations against experience, shows that he does not seek to overcome representations, but to find a way of thinking the *a priori* so that it cannot detach itself from ordinary experience. I think that Heidegger's later understanding of being as

φύσις, for example, can be read in light of this search, that is, as a way of thinking being that can avoid the danger lurking in the *a priori*.[18]

## Bibliography

Christensen, Carleton B. (1997). Heidegger's Representationalism. In *The Review of Metaphysics*, 51, 1, 77-103.

___ (1998). Getting Heidegger Off the West Coast. *Inquiry. An Interdisciplinary Journal of Philosophy* 41, 1, March, 65-87.

Freeman, L. (2010). Metontology, moral particularism, and the "art of existing:" a dialogue between Heidegger, Aristotle, and Bernard Williams. *Continental Philosophy Review*, 43, 4, 545-568.

Glazebrook, T. (1998). Heidegger on the Experiment. *Philosophy Today*, 42, 3, 250-261.

___ (2000). *Heidegger's Philosophy of Science.* New York, NY: Fordham University Press.

___ (2001). Heidegger and Scientific Realism. *Continental Philosophy Review*, 34, 4, 362-401.

Heidegger, M. (1967). *What is a Thing?* W. B. Barton and V. Deutsch (trans.) South Bend, IN: Gateway Editions.

___ (1977). Science and Reflection. In *The Question Concerning Technology and Other Essays*. W. Lovitt (trans.) New York: Harper & Row.

___ (1982). *The Basic Problems of Phenomenology*. A. Hofstadter (trans.) Bloomington, IN: Indiana University Press.

___ (1984). *The Metaphysical Foundations of Logic.* M. Heim (trans.) Bloomington, IN: Indiana University Press.

___ (2003). Metaphysics as the History of Being. *The End of Philosophy.* Stambaugh (trans). Chicago, IL: Illinois University Press.

___ (1978a). *Metaphysische Anfangsgründe der Logik im Ausgang von Leibniz*. Band 26. Frankfurt a. M.: Vittorio Klostermann.

___ (1978b). *Der Zeitbegriff in der Geschichtswissenschaft. Frühe Schriften*. Band 1. Frankfurt a. M.: Vittorio Klostermann.

___ (1984). *Die Frage nach dem Ding. Zu Kants Lehre von den transzendentalen Grundsätzen*. Band 41. Frankfurt a. M.: Vittorio Klostermann.

___ (1989). *Die Grundprobleme der Phänomenologie.* Zweite Auflage. Band 24, Frankfurt a. M.: Vittorio Klostermann.

[18] I am grateful to Stephen Mulhall, Beth Cykowski and two anonymous reviewers for their helpful comments.

___ (1997). *Nietzsche*. Band 6.2. Frankfurt a. M.: Vittorio Klostermann
___ (2000). *Die Frage nach der Technik* in *Vorträge und Aufsätze.* Band 7. Frankfurt a. M.: Vittorio Klostermann.
Kisiel, T. (1973). The Mathematical and the Hermeneutical: On Heidegger's Notion of the Apriori. In: Ballard E.G. and Scott C.F. *Martin Heidegger: In Europe and America.* (109-120). The Hague Netherlands: Springer.
McNeill, W. (1992). Metaphysics, Fundamental Ontology, Metontology 1925-1935. In *Heidegger Studies* Vol. 8, pp. 63-79.
Pattison, G. (2000). *Routledge Philosophy Guidebook to The Later Heidegger.* New York, NY: Routledge.
Roubach, M. (2008). *Being and Number in Heidegger's Thought.* London, UK: Bloomsbury Academic.
Versenyi, L. (1965). *Heidegger, Being, and Truth.* New Haven: Yale University Press.
Wrathall, M. (1998). Intentionality without representations. Heidegger's account of perception. *Philosophy Today*, 42, 182-189.