

## **Epistemic Constructivism, Metaphysical Realism and Parmenidean Identity**

In philosophy, views that are less well known and less often discussed are paradoxically often more promising than more popular and frequently discussed views. At this time there is probably no approach to cognition more promising than epistemic constructivism but also, in part because it is so rarely studied, none so poorly understood.

Theories emerge in respect to problems. This paper depicts epistemic constructivism as one of three main approaches to the cognitive problem as it emerges in Parmenides and later runs in different ways throughout the Western tradition. I will be suggesting that epistemic constructivism is more promising than such frequently studied alternatives as epistemic skepticism and metaphysical realism.

### ***Cognition and the Parmenidean identity thesis***

The cognitive problem, which is a main modern theme, arises early in the Greek tradition. Parmenides, who formulates one of the first “modern” approaches to epistemology, proposes an identity thesis, or the cognitive identity of subject and object as the condition of knowledge. At B 8.34, in writing that “to gar auto noein estin kai einai,”<sup>1</sup> he points toward identity as the only acceptable cognitive standard.

This interpretation is supported by textual analysis. Burnyeat, who thinks idealism is a specifically modern doctrine, attributes to Parmenides the view that thought refers to being.<sup>2</sup> At a minimum this interpretation suggests cognition requires, as Hegel later suggests, identity as well as difference, or an ontological distinction between the cognitive subject and object as well as a cognitive identity between the subject that knows and the object that is known.

Various types of identity can be distinguished. Frege stresses semantic identity in claiming that the morning star and the evening star have different meanings but the same reference, or the planet Venus. Numerical identity is the sense in which a given thing is self-identical. For instance the feather pen Krug employed to criticize Hegel is identical to his writing instrument. Qualitative identity, which refers to the way in which two or more things share a property, is illustrated in the notorious Platonic theory of forms (or ideas). Identity in difference, which is neither semantic nor numerical nor again qualitative, is a metaphysical relation brought about by the subject that creates an identity between itself and the object it “constructs.”

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<sup>1</sup> DK 28 B 3, Clem. Alex. Strom. 440, 12; Plot. Enn. 5, 1, 8.

<sup>2</sup> M. F. Burnyeat, *Explorations in Ancient and Modern Philosophy*, Cambridge: Cambridge University Press, 2012, p. 255: “But the fragment (frag. 3) which was once believed, by Berkeley among others (Sirius §309), to say that to think and to be are one and the same is rather to be construed as saying, on the contrary, that it is one and the same thing which is there for us to think of and is there to be: thought requires an object, distinct from itself, and that object, Parmenides argues, must actually exist.”

The Parmenidean view of cognition through identity in difference echoes through the tradition. In German idealism the ancient Parmenidean identity is restated as the identity of identity and difference. Thought and being are not the same but different since being, or what is, is independent of thought about it. But from the Parmenidean perspective “to know” arguably means that “thought grasps mind-independent being.” In other words, for Parmenides cognition requires an identity of thought that grasps, hence knows, mind-independent being as well as difference, or being that not only differs from thought about it.

The identity of identity and difference identified with German idealism only becomes explicit at the time of Hegel. Yet it is at least implicit throughout the Western philosophical debate on knowledge since the early Greek tradition. This identity is featured, for instance, in what is now often called metaphysical realism, a popular cognitive approach that echoes through the entire Western tradition up to the present day. In current terminology, the claim to know has often been and is still now routinely understood as metaphysical realism or a grasp of the mind-independent external world as it is and beyond appearance. This point is often expressed as any form of the claim that the world is independent of my views about it. Over the centuries Western philosophy has examined a long list of different cognitive strategies for metaphysical realism. The philosophical debate on knowledge consists in a long, varied, ingenious series of efforts to demonstrate the claim to know the mind-independent world. Other approaches to knowledge, which regard metaphysical realism in all its forms as unsuccessful, abandon all forms of the ancient effort to know mind-independent reality as it is beyond mere appearance while maintaining the claim for the identity of identity and difference.

### *Plato and metaphysical realism*

The enormously influential Parmenidean approach to cognition early in the Western debate continues to echo through the later tradition. Though there are many approaches to cognition, arguably the most important approaches are variations on only three themes already adumbrated by Parmenides long ago: epistemic skepticism, metaphysical realism or epistemic constructivism. Cognitive skepticism is any form of the view that either in theory or in practice efforts to establish the identity of subject and object fail. Metaphysical realism, which is widely familiar as the most popular approach to knowledge since Greek antiquity, rests on two claims: first, the ontological assertion of the existence of the mind-independent world, which has never been demonstrated, and, second, the epistemic claim that the mind-independent world is or at least in principle can be known as it is, not, for instance, merely as it appears, as Kant seems to suggest.

An ontological claim for the existence of the mind-independent external world is different from the epistemic claim, apparently a necessary but undemonstrated presupposition

of modern natural science, that the mind-independent external world exists and at least in principle if not in fact can be known as it is.<sup>3</sup>

This point calls for two comments. On the one hand, the familiar view that there is a mind-independent world, or in simpler language a way the world is, which is almost instinctively presupposed, is supposedly increasingly discovered by science, especially modern science. Yet it is undermined by recent physics, especially quantum mechanics, which is often understood to suggest that what we take to be reality is not independent of but rather dependent on the observer. On the other hand, this view is perhaps surprisingly anticipated by Hegel, who suggests, in employing the Fichtean term “to posit [setzen],” that we posit that what we seek to know exists outside the cognitive relationship as what, in echoing the Kantian thing in itself, Hegel calls “being in itself” that is called “truth.”<sup>4</sup>

Parmenides’ suggestion of the identity of thought and being is enormously influential in the later debate, for instance in the Platonic version of metaphysical realism. The Platonic version of metaphysical realism, also sometime called Platonic realism, is based on the theory of forms. We do not know and cannot now recover Plato’s position, if indeed he has one in a modern sense of the term. He says different things about the forms in different dialogues, whose invention he attributes to Socrates, which he apparently never formulates in acceptable terms, and which he sharply criticizes in Parmenides.

The theory of forms features a basic difference between epistemology, or theory of knowledge, and ontology, or theory of being, a discipline that precedes and makes possible epistemology so to speak. The theory of forms appears in different versions, all of which share the view that the form or idea is the ontological cause of which the appearance is the ontological effect. Though Plato says different things about forms in different texts, suffice it to say that a Platonic form has at least four qualities: they are objects of mind as opposed to sensory perception; they really are and do not merely appear to be; they are eternal hence not mutable; and they are what different things, or what Plato calls appearances, share since, as Plato points out (596A) “we are accustomed to posit a single form for each group of many things to which we give the same name.” This doctrine creates the infamous problem of participation, which Plato criticizes in Parmenides and Aristotle criticizes in Metaphysics.

Plato seems to suggest that the relation of forms to appearances or things is asymmetrical. The relation of the mind-independent real form as the cause to the appearance as its effect is a forward inference in which something, say the form of the table or tableness, is said to bring about a table. Plato gives as an example a carpenter who must know what a bed is in order to make a bed. This can be called a forward inference, which Plato favors, as opposed to a backward inference, which he opposes. Plato, who supports an inference from cause to effect, denies the backward inference from effect to cause, hence denies that acquaintance with a particular appearance, say a table, justifies an inference from the appearance or effect to its

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<sup>3</sup> See chapter 13 “Idealism/Realism,” in Nicholas Rescher, Communicative Pragmatism and Other Philosophical Essays on Language, Rowman and Littlefield, 1998.

<sup>4</sup> See G. W. F. Hegel, Phenomenology of Spirit, trans. A. V. Miller, New York: Oxford University Press, 1977, §82, pp. 52-53.

cause, or from the table, which is an appearance, to the form that is its cause, in this case tableness.

This Platonic denial of the inference from effect to cause appears very modern. The relation of cause to effect is not symmetrical. It is plausible to infer from a cause to its effect, but implausible, as Hume suggests, to infer from an effect to its cause. Plato avoids cognitive skepticism in suggesting that some among us on grounds of nature and nurture can “see” or intuitively grasp the forms.

It is useful to distinguish between the enthusiasm created by Plato’s endorsement of metaphysical realism and the strategy he employs. The metaphysical realist view formulated by Plato in response to Parmenides remains extremely influential even if there is probably no one at the present time willing to defend a recognizable version of the theory of forms. Platonic realism features an unverified and unverifiable claim to “see,” intuit or directly cognize mind-independent reality as it is. Plato seems to suggest in several places, including Republic as well as the Seventh Letter that the cognitive grasp of the forms is self-justifying since through dialectic we directly grasp first principles.

Plato rests his case in the unsupported, unverifiable and ambiguous claim for direct intuition of the mind-independent real as it in fact is. He could be saying that some selected individuals in fact intuit the mind-independent real, or he could rather be saying that if there is knowledge then some individuals must be able intuit the mind-independent real. In either case, Platonic realism, for which Plato does not argue, is difficult to defend. A claim for cognitive intuition of the real could only be supported by comparing perceptual objects and the mind-independent real.

### ***Descartes, ideas and metaphysical realism***

Parmenides suggests and Plato proposes a claim for cognition of the mind-independent world, a claim for which Descartes provides the first and still single most important modern argument. Plato rejects the backward inference from effect to cause, which Descartes revives against Plato in justifying the cognitive relation between ideas in the mind and the mind-external world. This places the bar very high, since the Cartesian view of knowledge apparently depends on overturning Plato’s rejection of a backward inference.

The Cartesian approach takes shape as a very sophisticated theory of cognitive representation. In the sixteenth and seventeenth century, the Platonic term “idea,” whose root is “to see,” took on a different meaning, closer to present day vernacular, of an image or a representation in the mind. It is often said that a representative theory of perception is widely held by all the thinkers of this period. This situation lasted up to the time of Kant, who uses the term “idea” as that for which no corresponding object can be given in perception. The same term “representation” means different things to different observers. To Descartes it refers to a grasp of what is as it is, but for Kant, since things in themselves do not appear and cannot be

known, it refers merely to what appears without any claim for its relation to mind-independent reality.

In the modern period, important views of ideas as representative of the mind-independent world are formulated by rationalists like Descartes, empiricists like Locke, and natural scientists like Galileo. Descartes proposes the canonical seventeenth century view of ideas as images of things. Galileo's natural scientific distinction between primary and secondary ideas is restated and sharpened by Locke, who holds that all knowledge is derived from experience. Locke, who defines an idea "as the object of the understanding when a man thinks,"<sup>5</sup> further distinguishes complex ideas, which are composed of simple ideas, and simple ideas which, since they match up one to one with experience, are necessarily true, hence cannot be wrong.<sup>6</sup>

The Lockean view is supported in general but not argued case by case through a model of the mind as a mirror of nature.<sup>7</sup> Descartes provides a more developed but still inadequate argument for the cognitive relation between ideas in the mind and objects in the mind-independent external world in his view of ideas as images of things.

The Cartesian argument, arguably the single most important modern effort to justify metaphysical realism, is based the presupposed relation between the mind-external cause, whether experience or God, and the effect, or idea in the mind. If this argument fails, then, as Kant later recognized, any inference from ideas in the mind to the mind-independent real world fails.

We recall that Plato relies on the forward inference from ideas to things or appearances, for instance when a carpenter relies on an idea of the chair to make a chair, but denies the backward inference from appearances to ideas, from effects to their causes. In order to make out his argument, Descartes and by extension anyone committed to the causal form of the view that we can and do know the mind-independent external world needs to justify the backward anti-Platonic inference from effect to cause.

The Cartesian theory of ideas is distantly influenced by and responds to the Platonic view that some individuals directly cognize reality through a causal analysis. Plato invokes personal privilege in his view of cognition. If there is knowledge, Platonic forms can in principle be known as its necessary condition of knowledge by some selected individuals. Descartes, who turns away from personal privilege, argues for the same goal through the supposed causal link, in fact the reverse anti-Platonic inference between ideas in the mind and the mind-independent external world.

It is not easy to rehabilitate the backward Platonic inference. A successful argument needs at a minimum to be show four points: first, there is a mind-independent external object or objects; second, we have ideas in the mind that refer to the mind-independent external objects; third, the ideas in the mind are effects caused by the mind-independent objects; and fourth at least some of the ideas in the mind correctly depict the mind-independent world.

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<sup>5</sup> John Locke, *An Essay Concerning Human Understanding*, edited by A. C. Fraser, New York, Dover, 1959, 2 vols., I, p. 32

<sup>6</sup> Locke, *Essay on Human Understanding*, I, p. 521.

<sup>7</sup> See Locke, *Essay on Human Understanding*, I. p. 143.

The complex Cartesian view of ideas is apparently still not well understood. According to Descartes, on causal grounds ideas in the mind present or represent the world outside us. For a long time the Cartesian view was thought of as representational. This interpretation has come under attack in recent years. Current scholarship credits Descartes with two conflicting views: representationalism, or the thesis that the only things we immediately perceive are mind-dependent things (i.e. ideas or representations), and direct realism, or the thesis that at least some of the things we immediately perceive are mind-independent things. There is good textual evidence for both views. Scholars, who think these views conflict, propose different resolutions. For instance, Clemenson, who suggests the so-called dual presence thesis, believes (1) there is *numerical identity* between *x qua* representation and *x qua* represented, and yet (2) there is a *real distinction* between *x qua* representation and *x qua* represented.<sup>8</sup>

For present purposes we can disregard the direct realist reading of Descartes' position. If it were correct, then he would be an empiricist and his position would be subject to criticism of empiricism. The more interesting and certainly more influential view is the anti-Platonic reverse inference from ideas in the mind to the mind-independent world. It is sufficient to note that the claim to grasp the world as it is through ideas in the mind is a function of the view that ideas are either innate, for instance caused by God, or adventitious, or caused by the world. According to the latter view, ideas in the mind are caused by, hence a reliable cognitive clue to, the outside world. If one could show that through ideas as effects we can infer to the mind-independent world as it is, we could redeem the promissory note for an anti-Platonic causal theory of knowledge of reality.

The issue is joined in the Third Meditation, where in a handful of pages Descartes invents the most developed modern approach to metaphysical realism. According to Descartes, an idea is an image of a thing. "Of my thoughts some are, so to speak, images of the things, and to these alone is the title 'idea' properly applied."<sup>9</sup>

Descartes' inference from ideas in the mind to the mind-independent external world is confused and confusing. He notes that he habitually takes clear and distinct ideas to be true but acknowledges that he does not perceive external objects, whose existence he infers. The difficulty lies in justifying this inference. The suggestion that God would not deceive me no longer seems interesting in our secular age. His further suggestion that an idea in itself cannot be false does not support the view that it is true. He claims that at least some mental ideas do not depend on him, for instance the idea of the sun derived from experience as distinguished from the same idea derived from reasoning. He takes this to mean that at least some of the time he is instructed by nature through a so-called "spontaneous inclination" derived from experience and not by the natural light or theoretical reasoning. This leads him to the view that he does not know but relies on mere blind impulse for the inference to mind-external things.

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<sup>8</sup> See David Clemenson, *Descartes' Theory of Ideas*, New York: Continuum, 2007.

<sup>9</sup> Third Meditation, in *The Philosophical Works of Descartes*, translated by Elizabeth Haldane and G. R. T. Ross, New York: Cambridge University Press, 1970, 2 vols., I, p. 159.

His most significant effort is the suggestion, in itself an instance of theoretical reasoning, about the conditions for the view that mental ideas demonstrate the existence of external objects. In distinguishing between substance and accident, Descartes suggests that ideas representing the former have more objective reality, hence are accordingly more trustworthy, than those representing the latter. He further suggests, since nothing comes from nothing, that there must be at least as much reality in the cause as the effect. Yet this is fallacious since there is no proportional relation between effects and causes. For instance, a huge explosion can result from lighting a match. Descartes, who applies this cognitive view to all ideas in the mind, suggests they are in all cases the effect of a cause outside the subject. This supposes, but does not demonstrate, that we can only justify ideas through an external cause.

This argument is doubly problematic. On the one hand, there seems to be no reason to justify the origin of ideas, hence to infer from ideas in the mind to something outside it. This is necessary if and only if the mind is incapable of originating ideas, and this has not been shown. On the other hand, if the causal sequence required an initial cause, for instance a first cause of reality, this would also not justify the view that an idea in the mind is in any way like the mind-external cause.

### *Some recent forms of metaphysical realism*

Philosophers, who talk about experience, often have difficulty in learning from it. Kant, who acknowledges the inability to demonstrate a grasp of the mind-external world in his Copernican turn, is an exception.

The Cartesian position is one of the earliest and most interesting, though finally unsuccessful efforts to formulate a theory of cognition based on the cognitive grasp of mind-independent reality. In Descartes' wake, metaphysical realism remains popular in the recent debate, where it is routinely asserted, though less often argued, for instance in Marxism, so-called continental philosophy and analytic philosophy. Pragmatism is perhaps the only current tendency that does not invoke metaphysical realism.

The view that we can and in fact do cognize the mind-independent world as it is remains extremely popular. Heidegger, for instance, claims without argument that art grasps the world. In building on Heidegger, Gadamer asserts that at the end of the day the inference that we grasp the world cannot be denied. Plato attributes an early version of the reflection theory of knowledge to Socrates. In different ways, this view, which echoes through the debate, is often invoked to support the claim to grasp the mind-independent world as it is. According to Marxism since Engels, cognition is based on the reflection theory of knowledge. In his early Tractarian writings, Wittgenstein claims through his so-called Picture Theory of Language that the world consists of a totality of interconnected atomic facts that propositions picture. Davidson and Brandom restate the early Wittgenstein's view that language hooks up with the world. Davidson rejects conceptual schemes in order to "re-establish unmediated touch with the

familiar objects whose antics make our sentences and opinions true or false.”<sup>10</sup> Brandom similarly believes we can correctly infer about, say, electrons or aromatic compounds, hence know “how things are with electrons and aromatic compounds, not just on what judgments and inferences we endorse.”<sup>11</sup>

These and other views share the ancient metaphysical realist view that there is a mind-independent external world and that at least some of the time we know it as it is. Yet to the best of my knowledge, which was not demonstrated before Descartes, has also never been demonstrated after him.

### *Hobbes, Vico and the emergence of constructivism*

No basically new argument for metaphysical realism has emerged in the debate since Descartes.<sup>12</sup> If we reject epistemic skepticism, then the Parmenidean cognitive criterion of identity suggests two main approaches to cognition: metaphysical realism and epistemic constructivism. Epistemic constructivism is a modern, second-best approach to cognition, which appears promising in place of metaphysical realism and to avoid epistemic skepticism.

Epistemic constructivism begins in ancient mathematics before coming into modern philosophy. Euclidean geometry asserts that the construction of a plane geometrical figure with a straight edge and ruler counts as a proof of the existence of the class. Under the influence of ancient mathematics, epistemically constructivist approaches to cognition arise in modern times, often as reactions to Cartesianism, in the writings of Hobbes, Vico, Kant and later figures.

Hobbes suggests that, in rejecting the Cartesian approach, we can cognize the mind-independent world through knowledge of its causes. Hobbes, who understands construction in a causal sense, identifies mathematical construction and demonstration. He adopts geometrical constructivism to epistemology in claiming that we know what we can either construct or directly deduce from constructions.<sup>13</sup> In *De Corpore* (1655), in rejecting the Cartesian view that cognition is knowledge of what is, he contends it is rather based on causality.<sup>14</sup>

Vico follows Hobbes in arguing against the Cartesian claim to know the mind-independent world and in favor of the anti-Cartesian thesis that we only know what we in some

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<sup>10</sup> Donald Davidson, *Truth and Interpretation*, New York: Oxford University Press, 1991, p. 198.

<sup>11</sup> Robert Brandom, *Articulating Reasons: An Introduction to Inferentialism*, Cambridge: Harvard University Press, 2001, p. 27.

<sup>12</sup> See, for recent discussion, Isabelle Thomas-Fogiel, *Le Lieu de l'universel. Impasses du réalisme dans la philosophie contemporaine*, Paris: Le Seuil, 2015.

<sup>13</sup> See Thomas Hobbes, *Six Lessons to the Professors of the Mathematics* .... In *The English Works of Thomas Hobbes*, edited by Sir William Molesworth, Long: Jules Bohn, 1839 et seq., cited in Arthur Child, *Making and Knowing in Hobbes, Vico and Dewey*, Berkeley: University of California Press, 1953, pp. 272-273.

<sup>14</sup> In the Introduction to Part I, "Computation or Logic," he writes: "PHILOSOPHY is such knowledge of effects or appearances, as we acquire from true ratiocination from the knowledge we have of their first causes or generation; And again, of such causes or generations as may be from knowing first their effects."



sense make or construct.<sup>15</sup> According to Vico, who bases his view of cognition on construction, the only refutation of skepticism about things lies in having made them.<sup>16</sup> He explicitly claims that “verum (the true) and factum (the Made) are interchangeable ....”<sup>17</sup> He thinks, for instance, that since only God made nature, only God can know it. He further thinks that since human beings made history, they can know it. Vico anticipates Marx in basing his approach to knowledge on the principle that “the world of civil society has certainly been made by men, and that its principles are therefore to be found within the modifications of our own human mind.”<sup>18</sup> He goes on to claim that there are universal principles to the science of society, which apply to all social institutions.

Vico, who was not known to the main German idealists, did not influence this tendency. He was, however, known to Marx, who identified with Vico’s historical approach to cognition in adopting the view that human beings make and hence know human history. The Hungarian Marxist, Lukács, sees Vico’s constructivist concern as central to the modern tradition. He suggests, in following Vico, that the central problem of modern philosophy lies in the idea that we know only what we create.<sup>19</sup>

### ***Kant, German idealism and epistemic constructivism***

I have argued elsewhere that, beginning in Kant, epistemic constructivism is the central theme in German idealism. I will not repeat that argument here. Kant introduces epistemic constructivism into German idealism, which can be read as a series of thinkers who, with the exception of Schelling, restate different versions of the Kantian approach, above all Fichte and Hegel. Since this is not an effort to describe the history of modern epistemic constructivism, even in outline, in what follows I will concentrate on selected German idealist versions of this approach.

Different versions of the basic insight that we only know what we construct, already sounded in the modern debate by Hobbes and Vico, recur in German idealism. Kant, Fichte and Hegel each turn away from metaphysical realism as the cognitive criterion in turning to epistemic constructivism.

There is no agreement about either “German idealism” or even “idealism.” Depending on the view of “idealism,” German idealism begins in Kant, before Kant, say in Leibniz, or after Kant, say in Reinhold, and continues even in Nietzsche. Leibniz, who is apparently the first to

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<sup>15</sup> In On the most ancient wisdom of the Italians (1710), in the New Science (1724), he states “The criterion and rule of the true is to have made it. Accordingly, our clear and distinct idea of the mind cannot be a criterion of the mind itself, still less of other truths. For while the mind perceives itself, it does not make itself.” Giambattista Vico, On the Most Ancient Wisdom of the Italians, trans. by JaTaylor, with an introduction by Robert Miner, New Haven: Yale University Press, 2010, p. 27.

<sup>16</sup> See Vico, On the Most Ancient Wisdom of the Italians, p. 39.

<sup>17</sup> Vico, On the Most Ancient Wisdom of the Italians, p. 17.

<sup>18</sup> The New Science of Giambattista Vico, trans. by T. G. Bergin and M. H. Fisch, Ithaca: Cornell University Press, 1970, pp. 52-53.

<sup>19</sup> See Georg Lukács, History and Class Consciousness: Studies in Marxist Dialectics, translated by Rodney Livingstone, Cambridge: MIT Press, 1971, p. 112.

use the term “idealism” in a philosophical context, thinks that idealism and materialism are compatible. He uses “idealism” to refer to Plato and “materialism” to refer to Epicurus.<sup>20</sup> Later observers, including Fichte,<sup>21</sup> often insist on the incompatibility between idealism and materialism. This view is central to Marxism but arguably less important or even unimportant for Marx.

Kantian constructivism is identified with the so-called Copernican revolution, a term he never uses to refer to his own position. The Copernican revolution is routinely mentioned in the Kantian debate but only rarely discussed in detail. Few observers think it is important. Blumenberg, the author of most extensive account, denies that Kant is influenced by or even familiar with Copernicus.

In simple terms, Kant’s epistemic revolution consists in two related points. First, there has never been any progress in cognition in taking the subject as dependent on an object. This point refers to metaphysical realism in which the problem of knowledge consists in knowing the mind-independent external world. Kant can be read as denying on a posteriori grounds any claim for metaphysical realism as the motivation for his turn to a priori epistemic constructivism. The second point consists in drawing the lesson of the failure to make progress on the contrary assumption. Though Kant’s theory is supposedly a priori, in the critical philosophy the a priori depends on the a posteriori, or the results of experience, more precisely on prior unsuccessful efforts to place all cognition on the secure road of a science.

Kant, who thinks it is apparently not possible to grasp the world as it is, proposes to invert the relation of subject and object in adopting a form of epistemic constructivism. This suggestion seems to be obscurely linked in Kant’s mind to mathematics. Everything happens as if the so-called Copernican revolution were a mathematical proof in which there were only two possibilities, and one could be eliminated. Yet the analogy is faulty since Kant does not in fact show but merely asserts that there are two and only two possibilities and one is false.

Kant’s Copernican turn depends on a complex interaction between three components: noumena or things in themselves, two synonymous terms to refer to the mind-independent external world; sensation, which has no form, hence cannot be cognized; and understanding, whose categories, which have no content, work up the uncategorized sensory content into cognizable objects. Since the objects of experience and knowledge have form given to them by the human mind, we can and do know them.

Kant’s vocabulary, writing style and position are difficult. His use of the terms appearance, representation, and phenomena in similar, perhaps interchangeable ways suggests that the mind-independent world impacts on us in the form of sensations caused by a world we

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<sup>20</sup> In responding to Pierre Bayle, he objects to “those who, like Epicurus and Hobbes, believe that the soul is material” in adding that in his own position “whatever of good there is in the hypotheses of Epicurus and Plato, of the great materialists and the great idealists, is combined here.” G. W. Leibniz, *Philosophische Schriften*, edited by C. I. Gerhardt, Berlin: Weidmann, 1875-1890, IV, pp. 559-560.

<sup>21</sup> See his “First Introduction to the Science of Knowledge,” in J. G. Fichte, *The Science of Knowledge*, edited and translated by Peter Heath and John Lachs, Cambridge: Cambridge University Press, 1982, pp. 3-28.

do not and cannot know, and which in affecting us provides inferred, but uncognizable content to which we give form in bringing sensation under the categories.

Like Plato, Kant denies we can make the backward cognitive inference from effects to their causes. Unlike Plato, he further denies intellectual intuition. In short and according to Kant we know appearances that we construct but do not and cannot know the mind-independent world that is their cause. Hence we can read Kant as denying metaphysical realism in embracing epistemic constructivism.

There is no consensus about Kant's position, which is interpreted in numerous, sometimes incompatible, ways. Kant is further inconsistent, in part since he apparently has difficulty in making up his mind. Though epistemic constructivism and metaphysical realism are incompatible doctrines, Kant apparently supports them both simultaneously. If Kant denies metaphysical realism in favor of epistemic constructivism, then he denies that we can cognize the mind-independent world as it is in limiting cognition to what we construct. There is textual evidence for this interpretation, which further corresponds to the contemporary German idealist reaction to the critical philosophy. Allison, on the contrary, influentially attributes a radically different position to Kant. According to his interpretation, for which there is also textual evidence, what appears is the "visible" aspect of what is in independence of us. In short according to this interpretation Kant is not an epistemic constructivist but rather a metaphysical realist after all. This approach has the advantage of giving Kant support to the modern concern to defend metaphysical realism, but at the cost of undermining Kant's epistemic constructivism, arguably the most interesting and original aspect of his position.

### ***Fichte, Hegel and post-Kantian epistemic constructivism***

Post-Kantian German idealists treat the critical philosophy as an initial, but faulty interpretation of the Kantian Copernican revolution, which they seek to carry beyond Kant and to complete. Fichte, Hegel and others revise Kant's influential Copernican turn.

Subjectivity becomes central to cognition in modern times. Montaigne and then Descartes stress that the road to objective cognition necessarily runs through subjectivity. The modern Cartesian emphasis on subjectivity is amplified in epistemic constructivism. Epistemic constructivism of all kinds depends on the subject, more precisely on subjective construction of the cognitive object.

Kant claims to deduce the cognitive subject, which is not a human being, but rather an epistemological function, as the copingstone of his transcendental deduction. The Kantian subject is a transcendental condition of experience and knowledge. This strategy leads to a basic tension between two Kantian concerns: on the one hand, the Copernican turn is motivated by the inability to account for knowledge if the subject depends on the object, and on the other hand Kant's interest, following Descartes, with epistemic apodicticity leads him down the a priori road. In short, there is a contradiction between a simultaneous commitment to epistemic constructivism, which is necessarily a posteriori, and apodicticity, which is necessarily a priori.

Kant's solution consists in calling attention to the relation between philosophy and mathematics. According to Kant, mathematics constructs concept, but philosophy analyzes them.<sup>22</sup> Kant's constructivist approach to mathematics is controversial. Frege, for instance, suggests that arithmetic is not synthetic but rather analytic. In contemporary philosophy of mathematics, "constructivism" has different meanings, including the view that it is necessary to find (or "construct") a mathematical object to prove that it exists. Suffice it to say here that the Kantian approach to philosophy explains the general conditions of possible experience but not the construction of any individual cognitive object.

Kant, who was one of the first to teach anthropology, drew the line at incorporating this science into his theory of cognition. Fichte, who depicts himself as a seamless Kantian, hence as a mere exegete, presents a deeply original, often non-Kantian, even anti-Kantian position that turns on revising the Kantian view of subjectivity.

Though Fichte, like Kant claims, like to be a transcendental philosopher, Fichte, unlike Kant, does not begin from an abstract transcendental subject. He rather begins from a concrete finite human subject situated within, hence limited by, the surrounding social and natural world. Though Fichte obviously falls into what Husserl later calls psychologism, he is comparatively closer to the spirit of Kant's epistemic constructivism than Kant. Fichte calls attention to the difference between the Copernican turn and Kant's critical philosophy. Kant interprets the Copernican turn as a priori, which Fichte reinterprets as a posteriori. Fichte's a posteriori constructionism is closer to the spirit of Kantian epistemic constructivism than the critical philosophy is. Fichte, who reformulates the Kantian theoretical approach to cognition as an account of cognitive practice, understands the problem of knowledge in a basically non-Kantian way. He turns away from an account of the general conditions of knowledge whatsoever, and toward an account of the contents of consciousness that, since they are accompanied by a so-called feeling of necessity, do not depend on the subject.

Hegel, who further revises Kant's Copernican turn, develops Fichte's anthropological transformation of the critical philosophy. In the Introduction to the Phenomenology, he describes cognition as an experimental process in which theories are formulated, tried out, and if necessary reformulated to understand the contents of consciousness, or conscious experience. A theory formulated on the basis of experience is tested in confronting it to further experience.

There are in general only two possibilities at any step in the cognitive process. One outcome is that the theory (more precisely the theory of practice understood as the contents of consciousness) agrees with conscious experience. In this case, subject and object, knower and known, subjectivity and objectivity correspond. Since the cognitive initiative is provisionally successful, the theory can be provisionally adopted until it is later disconfirmed through further experience. A contemporary example might be the recent discovery of the Higg's boson that is widely regarded as lending support to the so-called standard theory of matter. The other

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<sup>22</sup> See Kant, Critique of Pure Reason, B 741, p. 630. Kant writes: "Philosophical cognition is rational cognition from concepts, mathematical cognition that from the construction of concepts. But to construct a concept means to exhibit a priori the intuition corresponding to it."

possible outcome is that the theory fails the test of experience, hence is disconfirmed, and must be reformulated. Thus if further research about the Higg's boson indicated it did not exist, this would be a reason to revise or even reject the standard theory of matter.

The post-Kantian shift from an a priori to an a posteriori approach to cognition begins in Fichte and is deepened in Hegel. An a priori approach to cognition suggests a cognitive claim is unrevisable in contradicting the meaning of "theory." An a posteriori approach to knowledge is fully consistent with the idea that finite human beings construct what they know. Hegel further differs from Kant, Fichte and others in linking history and cognition. Like Vico Hegel thinks that cognition arises in a historical process that, unlike Vico, Hegel interprets as basically secular, hence without a religious dimension. Hegel views history as constructed and hence cognizable by human beings.

Kant's a priori view of construction of a transcendental subject is basically inconsistent with the idea of epistemic construction. Hegel for the first time understands the subject as finite human beings who construct the human world and themselves, including human knowledge within a historical process as suggested in the very idea that we construct what we know. In rethinking cognition as a historical process of finite human beings Hegel takes a giant step in realizing the Kantian view, a main modern formulation of epistemic constructivism.

### *Cognitive identity and epistemic constructivism*

This paper argues that the ongoing struggle between metaphysical realism and epistemic constructivism originates as early as Parmenides' influential claim for the identity of thought and being. Metaphysical realism, which remains as popular now as a cognitive standard as it has ever been, has never been demonstrated. This point is captured in Kant's observation that no progress has ever been made on the assumption that the subject depends on the object. The emergence of epistemic constructivism in modern times develops an alternative suggested long ago by Parmenides. In drawing attention to the incompatibility between the Kantian formulation of epistemic constructivism and the critical philosophy, later restatements of this influential approach by Fichte and Hegel contribute to realizing epistemic constructivism. German idealism, which has receded into history, is often, indeed routinely condemned by its many critics, who rarely inform themselves about it. Yet it remains interesting from the epistemological perspective. After more than two and a half millennia of debate, early in the nineteenth century German idealism finally provides a plausible account of the Parmenidean insight that thought and being are identical. Though still little known and accordingly misunderstood, idealist constructivism is arguably more promising than epistemic skepticism, more promising than metaphysical realism, and arguably the most promising contemporary approach to cognition.