

Vico on the Meaning and Nature of Scientific Cognition

Abstract

In this article, I reconstruct and interpret the early Vico's oft-neglected theory of scientific cognition, as found in his 1710 metaphysical treatise *On the Most Ancient Wisdom of the Italians*, a work whose aim was to be the handmaid to experimental physics. In particular, I offer a new reading of his *verum-factum* principle, which holds that the true and the made are interchangeable, by examining this doctrine in light of its unexpected connections to much later trends in philosophy. I also present his criticism of Descartes' *cogito* and, finally, Vico's own solution to the problem of skepticism, which is meant to provide a new foundation for the sciences.

In this article, I offer a new and unified interpretation of the manifold theoretical dimensions which collectively make up the underappreciated yet astonishingly forward-thinking character of the early Giambattista Vico's oft-ignored metaphysical and epistemological account of the meaning and nature of scientific cognition. In particular, I examine Vico's presentation of these matters as found in his 1710 *De antiquissima Italorum sapientia ex latinae linguae originibus eruenda*, or, as it is better known in English, *On the Most Ancient Wisdom of the Italians Drawn Out from the Origins of the Latin Language*,¹ and, hereafter, *DA*.

Vico's primary purpose in articulating a theory of scientific cognition is an ambitious one, as what he seeks is to provide the field of experimental physics with the solid theoretical grounding he believed it deserved. The truth of this claim is seen in the very way he identifies his account of metaphysics, as presented in *DA*, as "the handmaid to experimental physics."² In the quest to try and accomplish this objective, Vico's account of cognition will ingeniously center around our ability as humans to make or create things or objects, rather than around something else like our mental states, subjective experiences, and so on.

Through this, Vico's account of scientific cognition is tantamount to a constructivist view whereby, as he puts it, "we take something to be true in nature when it is similar to something we make through experiments."³ This means that Vico, a great admirer of both Francis Bacon and Galileo Galilei, will end up ascribing what one might preliminarily call a superior form or mode of objectivity, so to speak, to the results of experimental physics relative to the claims made in the other natural sciences, as well as to those made by the more theoretical and aprioristic Cartesian approach to physics which was known to emphasize the geometrical method, something Vico greatly opposed for its inherent lack of epistemic humility.⁴

As it is, Vico cannot be discussed in the context of these kinds of philosophical matters without engaging with the thought of René Descartes, whose ideas Vico forcefully opposes in *DA*, and which themselves were quite dominant in that they served as part of the methodology of various fields in Neapolitan academia,⁵ which is something he lamented. Indeed, Vico's unique and sophisticated account of scientific cognition can be seen, from another prism, as his attempt to

¹ Giambattista Vico, *On the Most Ancient Wisdom of the Italians Drawn Out from the Origins of the Latin Language*, trans. Jason Taylor (New Haven: Yale UP, 2010).

² Vico, *On the Most Ancient Wisdom of the Italians*, 135.

³ *Ibid.*

⁴ *Ibid.*, 122-123.

⁵ Henry J. Perkinson, "Giambattista Vico and 'The Method of Studies': A Criticism of Descartes' Influence on Modern Education," *History of Education Quarterly* 2, no. 1 (March 1962): 30-46.

develop a thoroughly anti-Cartesian conception of scientific theory and practice. After all, for Vico, the Cartesian account of scientific cognition was not only philosophically lackluster, but it was also fundamentally flawed, and this in terms of its construction as well as its purpose, thus rendering it incapable of furnishing the sciences with a solid foundation beyond that provided by what Vico considered to be purely subjective and valueless internalist considerations when it came to questions having to do with epistemic justification.

In particular, René Descartes' theory of scientific cognition, as presented in works like the 1637 *Discours de la Méthode*, or *Discourse on Method*,⁶ and the 1641 *Meditationes de prima philosophia*, or *Meditations on First Philosophy*,⁷ was deemed by Vico to be entirely misplaced in terms of the way it conceives of the idea of attaining first truth, as well as in the way it fundamentally misconstrues the skeptical position it needs to refute if it is to succeed, a doctrine which, of course, itself inspires the anti-skeptical Cartesian method's own *modus operandi* with its emphasis on doubt, which itself is conceived as the opposite of certainty. This misunderstanding, of course, would negatively impact the method itself. In Vico's eyes, then, Descartes' account of scientific cognition, which assumes or depends on all of these things, was absolutely irredeemable and thus in urgent need of a philosophical replacement, which is what he attempts to offer toward the end of *DA*.

Throughout my presentation of the manner in which Vico tries to get to said point, which will give us a full picture of his account of scientific cognition, in terms of its presentation and implications, I will paint a new portrait of the early Vico as a philosopher of science whose ideas on the meaning and nature of scientific cognition are able to be put in conversation with many later and even contemporary philosophical developments, many of which they seem to foreshadow, and which can no longer afford to remain underdiscussed. To carry out my objective, this article will consist of six different sections which progressively build upon the main conclusions of the previous ones.

In the first section, I contextualize Vico's *DA* and explain its purpose and provide a blueprint of the general structure that his relevant lines of argumentation will take. In the second section, I begin my close engagement with *DA*'s text itself and explain his *verum-factum* principle, which represents the central axis upon which his entire theory of scientific cognition turns. In the same section, I make sure to underscore the fundamental importance of Vico's primary distinction between divine and human truth, which I interpret as his implicit endorsement of a many-valued logic that effectively allows him to posit that human and divine cognition belong on the same continuum, which plays a pivotal role in accounting for his conception of objectivity proper.

Later, in the third section, I weave together the various threads which make up Vico's presentation of scientific cognition, as I pay special attention to the way he interprets various issues concerning the natural sciences in particular. To this end, I unpack Vico's opaquely expressed views on a number of related questions, which includes my examining his peculiar take on the nature of the objects relevant to the field of mathematics, as well on the manner of its practice. I also examine his account of language and the role played by concept formation in the initial construction and subsequent development of the sciences in general. This will be of use for us in later making sense of Vico's idiosyncratic yet fascinating vision of a hierarchy of sciences, whose analysis will bring into sharp relief the reason for which Vico values experimentation in physics as highly as he does.

In order to fully appreciate the implications of Vico's account of scientific cognition, I shift my attention in the fourth section to those parts of *DA*'s text where he discusses the ultimate failure

⁶ René Descartes, "Discourse on Method," In *Discourse on Method and Meditations on First Philosophy* (pp. 1-44), tr. Donald A. Cress (Indianapolis : Hackett, 1998).

⁷ René Descartes, "Meditations on First Philosophy," In *Discourse on Method and Meditations on First Philosophy* (pp. 47-103), trans. Donald A. Cress (Indianapolis : Hackett, 1998).

of Cartesian epistemology in accounting for the possibility of any real scientific cognition whatsoever, a mistake he believes is grounded in Descartes' conflation of the idea of the subjective with that of objectivity proper. In particular, I look at Vico's incisive attack on the *cogito* argument and explain the rationale behind his belief that this argument cannot provide any sort of genuine foundation for the sciences. In line with the same theme, in the fifth section I reconstruct and critically assess Vico's overlooked yet highly sophisticated attempt to solve the problem of skepticism, seeing as Vico believes Descartes failed to refute it. In so doing, I present a new interpretation of the various implicit and subtle nuances involved in what is a very obscure and compressed argument against the skeptical doctrine that continues to challenge philosophers today, whose refutation will allow, in Vico's eyes, for a new and genuinely proper or objective foundation for the sciences, which he therefore believes to provide.

Finally, in the sixth section, I provide a final assessment of things which includes a discussion of the scope, or meaningfulness, of the extent to which Cartesian thinking may perhaps be said to still converge with Vichian themes, despite Vico's own hostility to Cartesian thought. Apart from that, I finish off my portrait of the early Vico's metaphysical and epistemological account of scientific cognition by trying to come to grips with the nature of his philosophical identity in general, and this in terms of where his thought can be said to stand relative to not only the philosophy of his time, but also that which only comes much later.

I: Setting the Scene

As Cecilia Miller has noted, if Vico's *DA*, a relatively minor work, is well-known at all, it is because it marked an undeniable and important turning point in his career, namely, the point at which he started to become "violently anti-Cartesian."⁸ It is true that prior to the publication of this work in 1710, Vico, who was not trained as a philosopher, and who had taken a chair in Latin eloquence at the University of Naples in 1699, at least appears to have had a generally ambivalent attitude toward the philosophy of René Descartes. This attitude, however, clearly progressively crystallizes itself in the direction of discernible hostility by the time he delivers his 1708 academic inaugural oration, later published in 1709 under the title *De nostri temporis studiorum ratione*, or, as it is better known in English, *On the Study Methods of Our Time*.⁹

At that point in his early career it became quite clear that Vico felt some level of disdain for the anti-literary and anti-humanistic kinds of attitudes expressed by thinkers like Descartes as well as his acolytes, or spiritual successors, who were known to have dominated the academic scene in Naples, uncritically adopting his epistemological method, which famously emphasizes the value of clear and distinct ideas over all other kinds of ideas, as if the method offered a universal panacea capable of being re-appropriated as the very methodology of any given discipline so as to aid the cause and process of both scientific and artistic advancement. Such feelings of disdain are likely in Vico's case because, even if Descartes himself was only unintentionally a member of the infamous class of thinkers once referred to as *novatores*, whom, as Daniel Garber notes, sought novelty for its own sake¹⁰ rather than the prioritizing truth itself, the Frenchman clearly did not share the same degree of profound veneration for the intellectual achievements of the past nor for the value of letters or the study of languages which defined the scholarly predisposition of the far more traditionally erudite and humanistically oriented Vico.

This is clearly seen *On the Study Methods of Our Time*, which is Vico's attempt to lay out the

⁸ Cecilia Miller, *Giambattista Vico: Imagination and Historical Knowledge* (New York: St. Martin's Press, 1993), 9.

⁹ Giambattista Vico, *On the Study Methods of Our Time*, trans. Elio Gianturco (Ithaca: Cornell UP, 1990).

¹⁰ Daniel Garber, "Descartes among the Novatores," *Res Philosophica* 92, no. 3 (January 2015): 1-19, p.4.

reasoning behind his concern when it came the generalization of such attitudes, which he does by describing the negative effects which the cross-disciplinary application of Cartesian reasoning would inevitably have in accounting for the future decline of the arts and sciences, or the educational and academic world as a whole. In this respect, the work is primarily a kind of pragmatic warning or call to action and pedagogical reform, and not exactly a work of philosophy *per se*, as many of his criticisms of the Cartesian mode of reasoning are based primarily on psychological hypotheses of mental development as well as on historical or empirical observations concerning the deleterious consequences which the cross-disciplinary generalization and pedagogical omnipresence of Cartesian reasoning would inevitably engender in the long run through its myopic obsession in emphasizing the standards of clarity and distinction in one's ideas as serving as the sole criterion for truth. This attitude is manifested, for instance, in what Vico considered the illicit transposition and overvaluation of the geometrical method to a non-mathematical discipline like physics, which he similarly criticizes therein for its presumptuousness.¹¹

It is only when *DA*, a work whose title, I should note, is clearly inspired by Bacon's 1609 *De sapientia veterum*, or *The Wisdom of the Ancients*, is published the following year in 1710, that one sees Vico engage in an unambiguously direct and sustained fashion with Descartes' central philosophical theses, for, as Benedetto Croce puts it, Vico goes "straight to the heart of the matter, to the criterion Descartes had established himself, for the sake of scientific truth: to the principle of evidence."¹² The way Vico seeks to accomplish this will have him flesh out the implications of his earlier, more embryonically developed philosophical opposition to the standard of clarity and distinctness as the criteria for truth, which reaches its pinnacle with his attack on the *cogito* argument itself.

In particular, Vico will ground his critique thereof in his formulation and defense of what is known as the *verum-factum* principle, which Karl Löwith notably refers to as Vico's *Grundsatz*.¹³ It is in *DA* that this somewhat well-known principle is explicitly enunciated and discussed in some detail for the first, and, in fact, only time. This may, of course, surprise one considering the relatively minor status of *DA*, at least when one compares it to the rather outsized importance that Vico's *verum-factum* principle is supposed have when it comes to how we assess and understand the merits and originality of his overall intellectual legacy. The reason for this asymmetry, so to speak, is probably due instead to that fact that a version of this same idea persists, one drastically reformulated in the process, and this in his much later *Scienza Nuova*, or *New Science*,¹⁴ which came out in three separate editions in 1725, 1730, and 1744, and is unquestionably considered to be Vico's masterpiece, the one that has been the main recipient of the bulk of the scholarly attention devoted to Vico's thought, and which cemented his reputation as the greatest Italian philosopher after the Renaissance. As we shall see in what follows, however, the philosophical implications of the *verum-factum* principle as presented in *DA*, which is our only concern here, are rather profound and forward-looking in and of themselves, as they determine why Vico must claim Descartes' *cogito* argument fails to refute skepticism, and *a fortiori*, is unable to provide a proper account of scientific cognition, while giving him an alternative ground to do so.

As a whole, then, *DA*, whose title is clearly inspired by Francis Bacon's 1609 *De sapientia*

¹¹ Vico, *On the Study Methods of Our Time*, 23.

¹² Benedetto Croce, *La filosofia di Giambattista Vico* (Bari: Laterza, 1911), 2. Unless otherwise noted, translations are my own.

¹³ Karl Löwith, *Vicos Grundsatz: verum et factum convertuntur. Seine theoretische Prämisse und deren säkularen Konsequenzen* (Heidelberg: Universitätsverlag Winter GmbH Heidelberg, 1968).

¹⁴ Giambattista Vico, *The New Science of Giambattista Vico*, trans. Thomas Goddard Bergin and Max Harold Fisch (Ithaca: Cornell UP, 1948).

*veterum*¹⁵ can be said to canonically represent the early Vico's general metaphysical and epistemological theory as a whole. Indeed, Vico refers to *DA* himself as his metaphysics in his 1731 *Vita di Giambattista Vico scritta da sé medesimo*, known in English as *The Autobiography of Giambattista Vico*,¹⁶ which indicates he felt proud of what he achieved in this small work quite late into his very long academic career in Naples. As a text, however, *DA* is, as Robert Miner notes, both difficult and opaque, marked as it is by an astonishing and sometimes frustrating degree of “density and compression of contents,” which collectively furnishes the work as a whole with a “structure unusually difficult to discern.”¹⁷

As it is, Vico addresses a wide gamut of different topics in *DA*'s limited space, many of which can be related to different aspects associated with Descartes' thought, even if only indirectly. While what he has to say there as a whole is of much philosophical interest, I will more or less restrict my focus in what follows to Vico's presentation of the *verum-factum* principle as well as to those sections which address this principle's relevant implications for the question of scientific cognition. I include among these Vico's critique of Cartesianism, which is separately presented within the text itself, seeing as these are clearly important to try and spell out the compelling argumentative force that undergirds his generally underestimated critique of Descartes' *cogito*. This will allow one to later all of the nuances and possible tensions in Vico's subsequent and highly inventive argument against the doctrine of skepticism, an argument whose ostensive success represents, for him, a new groundwork for the establishment of an objective foundation for the sciences.

II: *Verum-Factum* and the Meaning of Cognition

Vico opens the first chapter of this work, titled *De Verbo, & Facto* by claiming that “[f]or the Latins, *verum* (*the true*) and *factum* (*the made*) are interchangeable or, as is commonly said in the Schools, they are convertible.”¹⁸ To this end, it is probably useful to keep in mind that, as Donald Verene notes, in this context the word *verum* “is best understood to mean ‘intelligible’— what is intelligible to its maker.”¹⁹ There is an inherent ambiguity throughout *DA* as a whole, however, when it comes to Vico's use of this word, as he seems to use it in both an adjectival as well as a more substantive sense, albeit not to the point where it should impede one's comprehension of his overall line of argumentation, if one keeps in mind that this is its principal meaning. In a related vein, I will take the opportunity to note that, for reasons of expediency, I must ignore the issues of the ostensive importance which Vico attributes to the allegedly etymological basis that couches his claim, one historical in nature but seemingly based on considerations of dubious philological accuracy. Instead, I merely take the interchangeability of the true with the made, which constitutes the aforementioned *verum-factum* principle, as the view endorsed by Vico himself to carry out his aforementioned objectives.

The idea that the true, in the sense just noted, is the made, seems to imply, naturally, that what is true must first be so in God, or in the Creator or Maker of all there is, assuming it was consciously

¹⁵ Francis Bacon, “The Wisdom of the Ancients,” in *The Works of Francis Bacon, Volume 6: Literary and Professional Works*, ed. James Spedding, Robert Leslie Ellis, and Douglas Denon Heath (Cambridge: Cambridge UP), 701-764.

¹⁶ Giambattista Vico, *The Autobiography of Giambattista Vico*, trans. Max Harold Fisch and Thomas Goddard Bergin (Ithaca: Cornell UP, 1944).

¹⁷ Robert Miner, introduction to *On the Most Ancient Wisdom of the Italians*, viii.

¹⁸ Vico, *On the Most Ancient Wisdom of the Italians*, 17.

¹⁹ Donald P. Verene, “Vico's Representation of the Metaphysics of René Descartes, Benedict Spinoza, and John Locke,” in *Keys to the New Science: Translations, Commentaries, and Essays*, ed. Donald P. Verene and Thora Ilin Bayer (Ithaca: Cornell UP, 2009), 179-198, p. 188.

or purposefully made, as Vico presumes. Since it is first in God, we can take this to be Vico's way of saying that it is certainly not first in us, that is, in our human minds, as Cartesianism itself supposes is the case. It is useful to provide Vico's reasoning in full when it comes to this point:

...the true is itself made; and consequently, first truth is in God because God is the first maker; it is infinite because he is the Maker of all things; it is most complete because He represents to Himself both the external and the internal elements of things, for he contains them.²⁰

This means, for Vico, that while humans can think, God can understand, since the latter can gather "all the elements of things, both external and internal, because He contains and disposes them."²¹ Humans, by contrast, cannot come to understand them in any full sense of the term, due to their limited nature as creatures, as they are thus always on the outside looking in, so to speak, meaning that, in relation to God, we are only, at best, looking through a glass darkly. From these initial premises regarding the epistemic contrast that exists between God and a human being in terms of their cognitive access to reality, Vico extrapolates that the human mind merely "participates in reason, but does not fully possess it."²² I think what Vico means by this rather surprising claim is not merely what it appears to say at first sight.

That is, I disagree that with the view that it mainly wants to emphasize something along the lines that there is a qualitative difference in nature in the intelligibility that underlies our cognitions relative to those God would have, and so on, that is, that what he seeks is but a way of merely or mostly underscoring the cognitive hopelessness of the human species by bringing into sharp relief its differences from God's own cognitive perfection, as when Jeffrey Barnouw writes that Vico's contrast between God and humans puts the latter at such a massive disadvantage that it is as if they "had to interpret a text while discovering or learning its language."²³

I say this even though I would go much further than Barnouw does in his hermeneutical analogy. In terms of the analogy, I think Vico would say that, while trying to interpret the text, humans would only ever have the epistemic warrant to assume they possess fragments, at best, of that text. These would be ones which, in their conjunction, would never be able to guarantee to us that we are in fact ever going to learn that language well, and *a fortiori*, that we should temper any epistemic arrogance to proclaim ourselves capable of knowing we have properly interpret the text or any significant part of it, beyond asserting that what we have are educated guesses, as there would be no ground to assume one would possess, in this analogy, all the necessary and important connections which originally united these fragments together, as if one can assume the totality of the text itself is always within practical reach, because it must be in principle.

As such, the first subtext in Vico's definition of the true which he wants to emphasize beyond stating the usual thing about humans' cognitive limitations is the idea that we should practice epistemic humility, always remaining open to recognizing the possibility of error in our ideas, claims, and theories about reality. In this respect, he significantly diverges from Bacon's more unbridled optimism as well as from the arrogance of those he would claim only have an unwarranted faith in humans' ability to know reality, as implied in the confidence of Cartesians' use of the geometrical method in physics. This first idea would explain what motivates Vico to want to only refute the Cartesian position on scientific cognition.

However, the second idea would explain why he also seeks to construct an anti-Cartesian

²⁰ *Ibid.*

²¹ *Ibid.*

²² *Ibid.*

²³ Jeffrey Barnouw, "Vico and the Continuity of Science: The Relation of his Epistemology to Bacon and Hobbes," *Isis* 71, no. 4 (December 1980): 609-620.

theory of scientific cognition that ends up elevating the importance of physical experimentation over aprioristic approaches to fields like physics. For, referring to the previous point, I want to be clear that it is not the same thing as my interpreting Vico as saying we can never, in principle, come to know things about reality, or scientific facts. It is simply more like saying we *might* never know reality, as we never have a proper ground to be able to claim to know perfectly that our facts are true at any given moment, which is subtly different even if not encouraging in and of itself. This is why I think the second thing Vico wants to emphasize in claiming we do not fully possess reason is the idea that the door is open for us, in principle, not to access some level of truth, but to claim it. Specifically, in this context, whether or not we can will depend on how well such cognition reflects, even if only in the most limited way, God's own cognition of things, as God is understood by Vico as the one genuine reference point in this context, both a model or standard, but also as the source of objectivity itself.

In particular, God's perspective is, to reword Thomas Nagel's famous idea of the "view from nowhere,"²⁴ the view from *everywhere*, and this both inside and out and forever. The theoretical coherence of a divine perspective thus represents for Vico a necessary condition for the real possibility, even if not the actuality, of us humans attaining a positive degree of cognition of things. That is, Vico is not trying to close humans off from any chance or access to cognition of things, or even merely trying to severely temper our confidence in coming to know the world. On the contrary, he is also implicitly making the stronger claim that humans might still share an intellectual bridge of sorts with God, as the door appears to open for an asymptotic, albeit presumably infinitesimally small, cognitive rapprochement with the divine perspective's view of reality in all its plenitude.

I make this claim because it seems Vico's account of objectivity is not in any Manichaean, that is, a matter of black and white, but instead it is something that comes in different shades or degrees. This postulation of God's view as the ultimate standard of absolute objectivity, which we can hope to approximate but never match, appears to be what serves as the rationale behind Vico's otherwise curious recourse to the somewhat outmoded Platonic language of participation, which is not the same thing as alienation. If I am correct with my interpretation, however, it ironically appears to serve as evidence for what appears to be a non-negligible, and perhaps even strong, tincture of assumed rationalism in Vico's account of human cognition, because the way he assumes the coherence of the divine view as a necessary condition for the latter also hints at the possibility that, if one reworks the definition of cognition, then it can possibly be argued to be a sufficient condition as well, which would appear to imply some sort of rationalism or epistemic realism that has not been addressed directly.

To see what I mean by this, it behooves us to first look at Vico's own analogy concerning the relation between God and humankind, which is indirectly presented in terms of a fundamental dichotomy he posits between the categories of *verum divinum* or, divine truth, and *verum humanum*, or human truth, where he proposes the former be seen as the rule for the latter. Specifically, the difference between God and a human being is portrayed by Vico as analogous to the difference which exists between a sculpture and its merely two-dimensional representation, although again it is important to mention that the parallel technically concerns Vico's distinction between the categories of divine truth and human truth. Vico claims:

divine truth [*verum divinum*] is a solid image of things, like a sculpture, human truth [*verum humanum*] is a sketch, or flat image, like a painting; and in the same way that divine truth is that which God disposes and begets insofar as He knows it, so human truth is that which man in the same way composes and makes insofar as he has come to know it.²⁵

Is this analogy Vico's way of expressing the usual divide that is said to exist between God's intuitive

²⁴ Thomas Nagel, *The View from Nowhere* (New York: Oxford UP, 1986).

²⁵ Vico, *On the Most Ancient Wisdom of the Italians*, 17.

cognition and humans' discursive cognition? James Morrison certainly believes so, implying that what Vico is saying with this is that while "God's knowledge (as intuitive) is adequate, man's knowledge (as discursive) is inadequate."²⁶ I think that there is much more to what Vico is saying, however. After all, to see the analogy as Vico's way of expressing the usual distinction between intuitive and discursive cognition would not properly explain, first of all, his need to frame things in terms of there being two versions of the true. Second, it appears his implicit references to the theme of making and to one's cognition of that making, add another layer of difficulty to the point Vico can be seen as making.

I propose then, that Vico is trying to do something more than just reiterate the fairly usual views that human cognition is debased, finite, or hopelessly irreconcilable by virtue of its distance from God's and so on, as is usually the purpose of invoking classifications like the supposed intuitive and discursive divide that is made to separate us from believing our mode of cognition is relatable to God's. In particular, I say this because Vico's analogization of what is true for humans and what is true for God can be interpreted as his way of underscoring an idea that was there only an implicit assumption, and this is the idea that both human and divine understanding can in fact lie on the same intellectual continuum, for if this is not possible, then God cannot serve, in actuality, as any kind of standard for humans. In my view, Vico uses this second analogy to relay to us the precise sense in which is possible, that is, what makes us go from the idea of a necessary condition provided by a standard, to the sufficient condition that in fact brings us closer to that standard. Specifically, this will have to do with the fact we have the ability to know the origins of some things, namely, of whatever we make, or perhaps better put, create.

To better illuminate and allow us to understand what I think is so innovative about the point Vico appears to subtly make here, I suggest comparing Vico to a much later philosopher who raises what would be very similar points. I am referring, namely, to the late eighteenth-century Jewish Polish-Lithuanian philosopher Salomon Maimon, best known for his 1790 *Versuch über die Transzendentalphilosophie*, or *Essay on Transcendental Philosophy*.²⁷ The main objective of said work was to critique Immanuel Kant's groundbreaking *Kritik der reinen Vernunft*, or *Critique of Pure Reason*,²⁸ whose first and second editions had come out a few years prior in 1781 and 1787, respectively. Even if Kant did not change his mind, the merits of the ideas in Maimon's manuscript were recognized by him, as seen when he writes about Maimon in a 1789 to his friend Marcus Herz, saying: "one glance at the work made me realize none of my critics understood me and the main questions as well as Herr Maimon does but also very few men possess so much acumen for such deep investigations as he..."²⁹ Similarly, Johan Gottlieb Fichte claimed his respect for Maimon's talent was boundless, but, unlike Kant, he did go as far as to say what he could not, writing: "I firmly believe that he has completely overturned the entire Kantian philosophy as it has been understood by everyone until now."³⁰

Now, Maimon was, broadly speaking, a Kantian himself, in the sense that he similarly accepted a fundamentally anthropocentric conception of cognition, which of course places him in an historical context that is quite alien from Vico's own early eighteenth-century intellectual milieu. However,

²⁶ James C. Morrison, "Vico's Principle of Verum is Factum and the Problem of Historicism," *Journal of the History of Ideas* 39, no. 4 (October 1978): 579-595.

²⁷ Salomon Maimon, *Essay on Transcendental Philosophy*, trans. Nick Midgley, Merten Reglitz, Henry Somers-Hall, and Alistair Welchman (London: Continuum, 2010).

²⁸ Immanuel Kant, *Critique of Pure Reason*, ed. and trans. Paul Guyer and Allen W. Wood (Cambridge: Cambridge UP, 1998).

²⁹ Immanuel Kant, "To Marcus Herz," in *Correspondence*, trans. and ed. Arnulf Zweig (Cambridge: Cambridge UP, 1999), 311-315, pp. 311-312.

³⁰ Johann Gottlieb Fichte, "Fragment of a Letter to Reinhold, March—April 1795," in *Fichte: Early Philosophical Writings*, ed. and trans. Daniel Breazeale (Ithaca: Cornell UP), 380-385, pp. 383-384.

Maimon also notably incorporated a pre-critical element to his version of Kantianism, that is, one Kant would have deemed a rationally unwarranted and thus metaphysically backward movement that would have Maimon shift toward the direction of more a theocentric conception of cognition typical of the philosophy of Vico's time, or indeed of any time from the ancient Greeks until right before Kant. Specifically, Maimon's break from Kantianism in this regard is attributed to his adoption of a position very similar to that held by Vico's older contemporary, Gottfried Wilhelm Leibniz, as its adoption enabled Maimon to posit that our finite human understanding could be interpreted as belonging on the same continuum as an infinite understanding's, which is something Vico himself assumed, as discussed above.

Maimon did this for a reason, however, and that was to have an initial escape valve that would help him resolve, or better yet, circumvent the central problem he believed plagued Kant's transcendental philosophy. Kant's view of cognition, as is well known, is grounded in the idea that the two sources of discursive, or, for our purposes, human, cognition, namely, our faculty of sensibility as well as of understanding, are completely heterogeneous in nature. For Maimon, this radical heterogeneity meant the impossibility of accounting for the supposed fact of our actual experience itself, as their lack of any direct relation meant they could only lead one to an explanatory dead-end, which could only tell us of the conditions needed for a possible experience, but not account for actual experience, for Maimon thought Kant's famous categories, or pure concepts of our understanding, could not rationally or justifiably be said to apply to what we encounter in the world of experience, or the domain of science.

The specific Leibnizian position Maimon adopted to overcome this impasse was simply to posit that our sensibility, while different from our understanding, ultimately represents, or boils down to the idea that it is but a confused *form* of understanding. This works easily around Kant's supposed problem in accounting for the applicability of the categories to our actual experience, because the question itself could never arise, seeing as a natural bridge exists between our sensibility and understanding. Specifically, this is so because it is implicit that, if one assumes the Leibnizian stance, then both our faculties of sensibility and understanding would necessarily "flow from one and the same cognitive source ([since] the difference [between them] lies only in the grades of completeness of this cognition)."³¹ Of course, this is something that opens up its own philosophical can of worms, but that is neither here nor there when it comes to my purpose in mentioning all this, as I believe it almost perfectly illustrates, albeit in an obviously significantly different context, Vico's own rationale in finding a reason to propose and then adopt the *verum-factum* principle itself, as it allows him to create an important relatability between human and divine cognition that can provide an objective foundation for the sciences.

In particular, I say this because one should note that Maimon's adoption of the Leibnizian position did not respond to Kant's philosophy by forcing one to abandon the latter's claim that our cognition is discursive whereas God's is intellectual. Indeed, the Leibnizian position it is not quite incompatible with it at all. However, adopting it does create a significant blurring of the lines in terms of the nature of the qualitative difference which would presumably distinguish the two kinds of cognition, at least relative to how things are presented in Kant's own account, which views human and divine cognition as separated by a chasm that simply cannot be brought any closer than whatever is its starting point. This is something that, I believe, effectively brings into sharp relief the basis for Vico's having made his particular analogy concerning the difference between divine and human cognition.

I say this because what Maimon did, in essence, was reconfigure the meaning of finitude itself, and this within the context of the intellectual realm, where this is something, which, as a notion, is

³¹ Maimon, *Essay on Transcendental Philosophy*, 38.

generally conceived of as tied to our dependence on having to be *given* objects. Maimon's alternative move is to connect finitude's meaning in this context to the related question of determining what it is, positively speaking, that ultimately accounts for why an infinite understanding is unlike a finite understanding while still also remaining a type of understanding, rather than, say, being none at all, as this is what we assume when this one is contrasted to the human case on the ground that it requires that nothing be given to it.

More specifically, it is not merely by virtue of pure passivity *per se* that one says the divine understanding is infinite, but rather, by virtue of the fact that it is grounded in God's creative activity. This allows Maimon therefore to seamlessly converge the question of cognition with the theme of genesis or creation. In the same vein, finitude, as the deficit it is supposed to represent relative to infinitude, is also considered by Vico in similar terms, that is, by similarly tying cognition to creative activity in this way, which explains why Vico ultimately puts such a premium on the idea or theme of making. In Maimon's case, a finite understanding is one that has no real cognition of what it is that lies beneath the *Entstehungsgart*, or manner of origination,³² of those empirical objects that constitute our actual experience, that is, of the things in nature that we do not create, and this is the same key in which Vico can be said to think of cognition.

Indeed, Vico, one can say, uses almost the same reasoning as Maimon on this point, for as with Maimon, the ability to know is ultimately unable to be separated from the issue of one's having ability to make, and this in the sense that the former is counterfactually dependent or even equivalent to the latter. As such, knowing can be said to be, for Vico, something like a "knowing-how." This view of things is, of course, rather alien when we compare it to, say, the usual contemporary epistemological theories which, as Gilbert Ryle once quipped, merely "reduce knowing to an *elite* suburb of believing."³³ However, in another respect, Vico can almost be said to foreshadow what are even more recent currents in epistemology, namely, those that intersect more closely with themes in the philosophy of action, as in the case of John Hyman's theory of knowledge, which conceives of knowing as an ability to be guided by facts,³⁴ to give but one prominent example of such an approach.

Consequently, if my interpretation of Vico is correct, we can now see one thing that might not have been so clear before, which is, namely, why he would find the need to posit a distinction between *verum divinum* and *verum humanum*. Since there would be an analogy between God and humans from the perspective of the intellect in the way just outlined, it seems true, by the same token, that by virtue of the maximal degree to which God can know the manner of origination of everything, a human's cognitive capacities are necessarily negligible in comparison. It is, however, still something, even if only infinitesimal in its magnitude. I think, then, that for the purposes of both consistency and ease of discourse, Vico is pragmatically justified, and, indeed almost obligated, to thus have to make a symbolic distinction between *verum divinum* and *verum humanum*, for otherwise his implicit acceptance of what is a non-binary and perhaps specifically fuzzy kind of logic would nearly make it nearly impossible for him to later state anything meaningful about our cognition without having to include a countless number of precision-increasing verbal qualifications, seeing as God's cognition represents the sole possible objective reference point for us humans.

As such, just as the metaphysical discourse of the Thomist Scholastics was embedded within the framework of their assumption of an *analogia entis* that holds between humans and God, perhaps one might say that Vico's more epistemologically-flavored metaphysical theory, at least as presented in *DA*, is similarly anchored in what would instead be an *analogia mentis*, one based on the human and divine capacity to know the manner of origination of things. This is an analogy that can reasonably be

³² Maimon, *Essay on Transcendental Philosophy*, 24.

³³ Gilbert Ryle, "Mowgli in Babel," *Philosophy* 49, no. 187 (January 1974): 5-11, p. 5.

³⁴ See John Hyman, *Action, Knowledge, and Will* (Oxford: Oxford UP, 2015).

defended, of course, if Vico can in fact argue for or demonstrate that humans are indeed capable of being cognitively comparable to God on a meaningful level, since all that is analogically comparable to something else, at least in the way implied above, also carries with it the assumption that the shared descriptor's definition is relevantly preserved throughout. For Vico, the validity of this analogy turns out to manifest itself through the specific way in which our creative dimension as human agents is also able to serve as the root of those truths we can access and therefore know about, which is a claim he must flesh out, as this idea represents what is meant by making or creating in this context.

III: The Case of Scientific Cognition

This implicit constructivist approach to cognition will mean that, for Vico, science itself can then only be defined as “knowledge of the genus, or mode, by which a thing comes to be.”³⁵ In keeping with the aforementioned need to have to distinguish between divine and human truth, but also seeing that “the true in the complete sense [that is, the highest degree possible]”³⁶ is God's domain alone, there must also, naturally, be another distinction between a science that is divine, which would concern God's revelation, and whose mode of origin would simply lie outside of our cognitive reach, and a broad science that is human, which essentially comports any scientific field apart from that one, whether these be mathematics-based, natural, moral, or whatever else. It is this latter umbrella category, namely, that of human science in general, which will be the object of our focus in what follows, with a special emphasis on his account of what we would call the natural sciences.

Now, the way a human science works, in Vico's view, is by extracting, or more properly, abstracting, certain concepts that are meant to be relevant. Indeed, this process of abstraction results from a vice in the mind that is the product of our inherent limitations in being a part of nature accounts for our inability to compose the elements of the many things around us that exist and which we observe, including ourselves. For Vico, the fact of our giving in to the former mental proclivity will serve as the principal condition of possibility for the development of all the human sciences. Just as “body” and “soul” represents what “man” is broken down to through a certain accepted prism, human science, Vico writes, has also “extracted or, as they say, abstracted, shape, motion...”³⁷ Consequently, Vico likens human science to what he calls “a sort of anatomy of the works of nature.”³⁸ Indeed, included among the human sciences themselves is metaphysics itself, which results from the abstraction of “being,” so the process starts at the most general of conceptual levels possible, and in this respect we can compare Vico on this point with how the late Scholastics had their own doctrine of *supertranscendental being*, a concept which, as Jan Aertsen notes, simply stood for “intelligibility or objectivity as such,”³⁹ while Kant's transcendental philosophy, placed the concept of an object in general above all in a similar way.⁴⁰

Similarly, all of arithmetic, Vico notes, comes from that which resulted from humanity's having once originally abstracted the idea of a “unit.” As proud as one might be of all that we have managed to accomplish through the formation, use and development of concepts like these, their diversity and complexity when taken as a totality also, ironically, serves an indicator of just how great the magnitude is which defines the cognitive gulf that separates humans from God within their shared intellectual

³⁵ Vico, *On the Most Ancient Wisdom of the Italians*, 19.

³⁶ *Ibid.*, 21.

³⁷ *Ibid.*

³⁸ *Ibid.*

³⁹ Jan Aertsen, *Medieval Philosophy as Transcendental Thought: From Philip the Chancellor to Francisco Suarez* (Leiden, Netherlands: Koninklijke Brill NV, 2012), 642.

⁴⁰ See Kant, *Critique of Pure Reason*, 382.

continuum. For, as Vico writes, from God's point of view, all of these different concepts are simply one and not divided, as is the case with humans, who must make up for the defect of finitude by making use of strategies that only or ultimately amount to partial cognitive coping solutions which are also, in their practice and execution, analogous to first covering one's left eye to sharpen the right eye's equally limited vision.

In particular, Vico believes that thinking about any kind of thing or object in any kind of local context, or in isolation, no matter the domain it comes from, an activity which represents, of course, part and parcel of any science's practice, can only reflect the fact that our minds are by nature unable to take everything in, which is something it would otherwise do if it had the capacity. That renders our original mental abstracting proclivity a kind of cognitive adaptation. Vico's ideal standard is God, who would never find the need resort to the same kinds of strategies. This kind of reasoning about scientific practice is one that allows Vico to make a passing jab at Descartes' ascription of importance to clear and distinct ideas, as he does much later on in his text, when he writes:

...thinking itself is an admission that what you think is unformed and has no limits. And, on account of this, to know distinctly is a vice rather than virtue of the human mind, for it involves knowing of the limits of things. The divine mind sees things in the sunlight of its own truth, that is to say, when it sees a thing, it knows infinite things besides the thing which it sees; the human mind, when it knows a thing distinctly, sees it at night by torchlight, and when it sees it, it loses sight of the things nearby.⁴¹

In other words, what Vico wants to say here is that our possession of Descartes' clear and distinct ideas is more a symptom than anything else, of the negative condition that is our intellectual myopia, thus implying there is arrogance in the Cartesian assumption of clarity and distinction as the ultimate criterion for the true, which, in terms of our previous metaphor, unwarrantedly assumes covering one's eye to aid the other's visual limitations, can indeed lead to perfect version.

However, that the objects of science are necessarily very differently conceived by both humans and God as the result of the way our limited minds are constructed is probably something Vico stresses with the express purpose of undermining Cartesianism rather than to undermine the many accomplishments that have been achieved through the human sciences, which he certainly values and makes sure to praise. Indeed, to this end, Vico begins by claiming that "man turns this vice of mind to good use and by abstraction, as they say, feigns for himself two things, a point which can be designated and a unit which can be multiplied"⁴² and so, from our limitations, we are then able to create "a sort of world of forms and numbers."⁴³ Vico is here, of course, referring to the world of mathematics, which is later fundamental to the development of many other sciences. However, it is curious to note that, remaining within the paradigm of mathematics, this world is ultimately but a fiction in Vico's eyes. This is so despite the fact that, through mathematics, humankind "effects infinite works because he knows within himself infinite truths."⁴⁴

In this context, infinite truth should be contrasted here, it seems, with truths of a contingent nature, the way Leibniz similarly distinguishes things. I say this because it seems to be a bit more of a sensible reading of Vico than interpreting him as saying that the set of truths we know or can know in mathematics is infinite in its range, and so we should be proud of that. In any case, the reason we can access truths through mathematics has to do with the fact that in this case we are not on the outside looking in, like actors or spectators watching a play, when we are doing mathematics, as, say, when we are dealing with empirical objects, as all of the relevant elements are ones found within the

⁴¹ Vico, *On the Most Ancient Wisdom of the Italians*, 69, 71.

⁴² *Ibid.*, 25.

⁴³ *Ibid.*

⁴⁴ *Ibid.*

mind itself, and, as Vico writes, “when the mind gathers together the elements of a truth which it contemplates, this can only be the result of the mind making the truth which it knows.”⁴⁵ Despite how great an achievement this might all be, insofar as our minds possess a genuine truth-making capacity, if the most essential elements of mathematics, like the point and line, are only mere fictions, Vico is clearly no believer in mathematical Platonism, which may be surprising to some, as this also seems to deflate the supposed value of mathematical truths. However, maybe I should qualify things somewhat and say that Vico would, at the very least, find no reason whatsoever to assume that the mathematics that have been accepted either in his or any time, has properly specified certain abstract entities that can still, in principle, exist “out there” in some other form.

At the same time, I do not want to advance the idea that Vico is necessarily a nominalist in this context, however, but to show that his thinking on the matters appears to foreshadow future developments. In particular, it seems, rather, that Vico’s views on mathematics overlap to a high degree with those of the instrumentalist, fictionalist camp that is now prominent within contemporary philosophy of mathematics and perhaps best associated today with the figure of Stephen Yablo, and which in fact could be said to represent or involve the implicit endorsement of an atypical form of Platonist thinking. If not, then perhaps it is better in this respect to say that Yablo would at least find the language used in reference to Platonic objects to be figurative in nature.⁴⁶

Vico’s view that the well-established mathematics of his time were a useful fiction more than anything else is certainly the kind of position whose respectability benefited from passing of time. I say, of course, due to the surprising mathematical breakthroughs which took place over the last couple of centuries or so, for instance, with the development of non-Euclidean geometries, the discovery of Gödel’s incompleteness theorems, and the multiplicity of axiomatic systems that can all serve as alternate foundations for mathematics in general, and so forth, which certainly attests to the fact that regardless of how one may best label Vico’s mathematical views, they were certainly ahead of his time in an important sense, and this of course, makes his opposition to the geometrical method in physics of especially significant philosophical interest.

Another important issue Vico addresses concerning the nature of scientific cognition has to do with language and concept formation, which is found when he addresses the related question of definitions. For Vico, defining means in this case to “assign each thing its own nature and truly make it.”⁴⁷ For Vico, then, the physicist, for instance, cannot truly define *things*. Instead, it is only names that are defined, and so, “like God, he [that is, humankind] creates point, line, and surface out of no substrate, as if out of nothing...”⁴⁸ So, in defining, for instance, a point as something with no parts, without at the same time being able to possess “the elements of things in accordance with which the things themselves exist with certainty.”⁴⁹ what we have, essentially, are glorified stipulations, seeing as we are bargaining exclusively within the realm of names, and not that of things.

Vico’s thoughts on the issue of definitions appear reminiscent of W.V.O. Quine’s web of beliefs associated with the view of holism he endorsed. If read in a more semantically deflationary key it can even be seen as reminiscent of Jacques Derrida’s notion of *différance*, with its assumption of language as a kind of endless chain of signification, where distinctions are interdependent, as the essence of the chain itself is marked by a continuous deferring of any real meaning. Perhaps an analogy might serve as a better and more useful way to understand Vico’s thoughts on the matter, however. I

⁴⁵ *Ibid.*

⁴⁶ Stephen Yablo, “A Paradox of Existence.” in *Empty Names, Fiction, and the Puzzles of Non-Existence*, ed. Anthony Everett and Thomas Hofweber (Stanford: CSLI, 200), 275-312, p. 277.

⁴⁷ Vico, *On the Most Ancient Wisdom of the Italians*, 25.

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

mean this in the sense it seems our accepted definitions, as understood by him, function collectively in the manner of an economy in which a fiat currency of the sort that is not backed by any physical commodity at all can simply be printed when necessary, as money continues to circulate all the while. In our case, the economy of names, however, has made us prosperous from a practical perspective, because the development of arithmetic and geometry, which are “two sciences most useful for human society,”⁵⁰ helped bring forth mechanics, which is described by the pragmatic Vico as “the parent of all the arts necessary for mankind.”⁵¹

Since the “original vice” of abstraction is what created the conditions of possibility for the human sciences in general, this permits Vico to classify as most certain those sciences which “turn out to be similar to divine science in their operative dimension inasmuch as in them the true and the made are convertible.”⁵² Since all the human sciences are generated through such abstraction, however, then the certainty of a science, or its proximity to divine science, that is, its degree of “godliness,” so to speak, can be ranked by a criterion that allows us to capably discriminate among the human sciences in order determine which one is, in a positive sense, the least human and thus the most superior of them all, that is, the most objective. For Vico, this criterion will be the given science’s respective distance from “bodily matter,”⁵³ which corresponds to the degree and nature of our making when it comes to those objects which constitute any given science’s circumscribed domain of objects. For instance, since geometry is *a priori* in terms of justification and thus by nature completely devoid of “bodily matter,” we can create or construct all its objects in a more genuine way than if geometry were not so, even if these are not objects in any real sense, as this suffices to render it more reflective than, say, mechanics, of the manner that God works as Creator of the universe, that is, completely unimpeded by any kind of creative limitation.

In *Figure 1* below, then, we have a tabular representation of how Vico ranks specific sciences in terms of how well they allow humans to “play” God in this way:

Figure 1: A Hierarchy of Sciences

Science	Reason it is not perfectly certain
Geometry and arithmetic (tied for first)	To be perfectly certain would mean to be a divine science, and these ultimately come from our finite mind.
Mechanics	Requires mechanisms in its consideration of motion
Physics	Considers the internal motions of bodies (unlike mechanics which only considers the external ones)
Ethics (last place)	Considers the motions of souls (and nothing is more inward than this)

Beyond Vico’s denying geometry and arithmetic perfect certainty, one thing that is noteworthy about Vico’s hierarchy of sciences is how much it differs from John Locke’s, who advocated for the belief that ethics was on a par with mathematics in this regard, as Perez Zagorin notes in his discussion of

⁵⁰ *Ibid.*, 27.

⁵¹ *Ibid.*

⁵² *Ibid.*

⁵³ *Ibid.*

Vico in relation to Locke and Thomas Hobbes.⁵⁴ In this respect, Locke writes in his 1689 *An Essay Concerning Human Understanding*:

I am bold to think that morality is capable of demonstration, as well as mathematics: since the precise real essence of the things moral words stand for may be perfectly known, and so the congruity and incongruity of the things themselves be certainly discovered; in which consists perfect knowledge.⁵⁵

Vico's ideas concerning definitions, however, clearly conflict with the kind of reasoning involved in Locke's argument. It is also interesting to note that, while Hobbes would have placed politics in the rarefied air of mathematics, seeing as it was able to be, in his view, geometrically presented, Vico could never agree to any such conclusion, it can in no way be said to involve the same kind of construction Vico finds in the practice of mathematics.

In particular, if I construct a mathematical concept, it is also exhibited at once in a way that does not apply to a mere definition that one uses in, say, stating a first principle from the domain of politics, or political theory. If, however, the question of mathematics' status were posed to Vico today, that is, in an era in when a non-constructive proof of the kind that might be used to prove, say, something like David Hilbert's *Nullstellensatz*, is not of itself an oddity, then perhaps Vico would have had to make some distinctions within his own account mathematics, for instance in having to consider what to make of existence theorems. I especially say this because it seems difficult to believe that Vico would not be in favor of something like intuitionistic logic, so a case worthy of further research may be made that he is a kind of neglected forerunner to the central ideas of L.E.J. Brouwer and Arend Heyting.

Now, while it is true that the later Vico would have placed history on the same level of geometry, as well as, presumably, all other *humanistic* sciences, or whichever involves the civil world in some way, above the natural sciences, this would all be for very different reasons that do not concern nor apply to the early Vico. After all, if one considers more closely the reasoning that Vico uses in ranking ethics below physics in terms of the universal guiding criterion he uses in ranking such vastly different sciences, it simply appears entirely inconceivable for him to have considered giving any high status to history in particular at this point in his career.

It is also not clear if this same reasoning concerning the difference in certainty between physics and ethics reflects the fact that what we would call today the natural versus the human sciences are simply not sharply bounded at all from Vico, as one may otherwise expect from him, for the reasoning behind their limitations is evidently rather uniform across the boards. That is, the difference between something like physics and ethics is seemingly more apples to apples than it is apples and oranges, so to speak, which seems to imply there is some sense of their continuity among them. In the same vein, it is interesting to observe that, Vico's hierarchy also appears to be an silent endorsement of a Cartesian-style idea of unity among the sciences, as he also does so implicitly, but for other reasons, in his earlier *On the Study Methods of Our Time*.⁵⁶

In Vico's discussion on physics in particular, he makes a few points worth mentioning in order to better appreciate the unique pragmatic conception of science he advances in *DA*. Concerning the merits of physical experimentation, he begins with the claim that "meditations in physics are proven when we produce some work which is similar to them."⁵⁷ It is no surprise that Vico, whose theory

⁵⁴ Perez Zagorin, "Vico's Theory of Knowledge: A Critique" *Philosophical Quarterly* 34, no. 134 (January 1984): 15–30, pp. 20–21.

⁵⁵ John Locke, *The Clarendon Edition of the Works of John Locke: An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon Press, 2015), 516.

⁵⁶ See Vico, *On the Study Methods of Our Time*, 6–8.

⁵⁷ Vico, *On the Most Ancient Wisdom of the Italians*, 27.

emphasizes *making* as the key to cognition about causes would naturally see a link between (re)producibility and provability, which, in turn, grounds his rather high view of experimentalism: “thoughts on nature are admired as most brilliant and accepted with the greatest consensus of all if we apply to them experiments in which we make something which is similar to nature.”⁵⁸ This is because, as Verene paraphrases Vico’s rationale on this point, the importance of experimentation in physics or the natural sciences would lie precisely in the fact that “in it we simulate the making of the event in order to witness its truth or cause.”⁵⁹

What is most interesting about all this is that, even if David Marshall is right to point out that, for Vico, “[e]xperiments are less precise than the demonstrations of mathematics, given that they do not bring into existence *ex nihilo* the materials they use to reconstruct the workings of nature,”⁶⁰ as he himself notes, they can be still said to stand face-to-face with mathematical proofs from another point of view, namely, from the angle that “the epistemological principle at work in experimentation”⁶¹ is, as he notes, “essentially the same as the principle that accounts for mathematical knowledge.”⁶² If metaphysics is supposed to serve as the roots for the trunk that is physics, as in Descartes’ description of things as is found in the preface to the French version of his 1644 *Principia Philosophiæ*, or *Principles of Philosophy*, where he claims that “[p]hilosophy as a whole is like a tree; of which the roots are Metaphysics, the trunk is Physics, and the branches emerging from this trunk are all the other branches of knowledge,”⁶³ then in Vico, we can see, in an analogous way, why his vision of “metaphysics,” with the particular conception of science it supposes, is able to serve as a handmaid to experimental physics. After all, taking into account his distinction between divine and human truth, the epistemic humility he endorses can only assume a trunk in this analogy, which itself starts with metaphysics, and through which he can only endorse a unique form of holistic pragmatism in the process that favors a creative mimicry of the divine that unites both mathematics and experimentation in an important way by virtue of the way he understands scientific cognition.

IV: The Failure of the *Cogito* as a Possible Foundation for the Sciences

In positing the *verum-factum* principle, we can see then, that Vico has many possible directions from which to launch an attack on almost any of the major aspects that defines Cartesian thought. For instance, the obsession with clarity and distinctness makes for an easy target under the new definition of science offered by Vico. In this respect, he writes:

So, from the things which we have discussed so far, one may gather that the criterion and rule of truth is to have made it, and consequently, the clear and distinct idea we have of the mind cannot be the criterion for the mind, much less for other truths because, while the mind knows itself, it cannot have a science of the genus, or mode, by which it knows itself.⁶⁴

That is, the mind simply cannot, by its own nature, have a science of itself, at least not in Vico’s sense

⁵⁸ *Ibid.*

⁵⁹ Donald P. Verene, “Giambattista Vico,” in *A Companion to Modern Philosophy*, ed. Steven Nadler (Malden, MA: Blackwell, 2002), 562-571, p. 567.

⁶⁰ David L. Marshall, “The Current State of Vico Scholarship,” *Journal of the History of Ideas* 72, no. 1 (January 2011): 141–60, p. 117.

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ René Descartes, *Principles of Philosophy*, trans. Valentine Rodger Miller and Reese P. Miller (Dordrecht: Reidel, 1983), xxiv.

⁶⁴ Vico, *On the Most Ancient Wisdom of the Italians*, 27.

of science, as it does not make itself. This very basic idea represents the germ that serves as the basis of his subsequent and much more elaborate attack on the *cogito*, for, as Karl-Otto Apel writes, “[i]f the ‘cogito ergo sum’ wanted to claim the character of a ‘verum,’ man should be able to create himself,”⁶⁵ and to which I now turn.

To this end, I want to begin the following analysis by first making note of the fact that the *cogito* itself is the subject of its own, focused treatment in *DA*’s short but incredibly compressed second section on Descartes and the question of first truth, titled “*De Primo Vero, quod Renatus Carthesius meditator.*” As such, this section of Vico’s work is truly meant to represent the culmination of his variegated critique of the Cartesian account of both cognition and science in general, as he there presents a trenchant critique thereof which is meant to discredit the epistemic value of its implications. To begin framing things, Vico refers to the two potential classes of opponents to those ideas that have just been presented above, that, to his ideas, as so-called dogmatists and as skeptics, both of whom he must confront to achieve his objectives in full. In this context, Descartes represents the dogmatist *par excellence*. Indeed, Vico opens the section as follows:

In our time, dogmatists hold all truths as subject to doubt prior to metaphysics, not simply those put forward in practical life, such as in ethics and mechanics, but even those in physics, and consequently, in mathematics; for they hold that metaphysics alone offers us indubitable truth, and that from it, as from a fount, flow the secondary truths of the other sciences.⁶⁶

Since providing the sciences with a proper foundation requires, from this perspective, that we rid ourselves of all the necessary prejudices and unsupported beliefs we hold, or that we approximate such a state, the boundary line between the dogmatist and the skeptic’s view thus begins precisely with the question of *primum verum*, or first truth.

Vico’s examination begins by noting that Descartes’ answer to the question of first truth starts off on purely mental and epistemologically internalist grounds, for, as he writes, referring to the latter’s well-known arguments as found in *Meditations*, “[t]he great philosopher teaches it to be the following: man can call into doubt whether he senses, whether he lives, whether he is extended, and finally even whether he is in any way to help his argument, he summons the aid of a demon deceiver who can beguile us.”⁶⁷ Vico discredits Descartes’ originality in the process, sarcastically noting Cicero had made a similar reflection approximately sixteen centuries earlier in his *Academica*. As is well known, after Descartes supposedly resolves the many problems he encounters along the way throughout his private, isolated, contemplative journey in search for the truth, he eventually makes the classic *cogito* move, which holds that since one is conscious of thinking, one must at least be certain of the fact such is the case. In Vico’s words, “[t]hus, René unveils this as first truth: *I think, therefore I am.*”⁶⁸

As it is, Vico similarly appears to think little of the *cogito* argument as a whole in terms of its originality, for the slave Sosia had essentially reached the same conclusion, and this, no less, with the disadvantage of being a fictional character in one of Plautus’ comedies, right around the beginning of the third century! Regardless of the *cogito* argument’s supposed utter lack of creativity, Vico continues to engage with Descartes philosophically, and rapidly begins to take things up a notch. Specifically, Vico notes and explains why the *cogito* argument itself is nothing but a banality of the sort any self-respecting skeptic should accept, since “no skeptic doubts his own thinking: indeed, he professes that what he seems to see is so certain, and professes it with such steadfastness, that he defends it even in

⁶⁵ Karl-Otto Apel, *Die Idee der Sprache in der Tradition des Humanismus von Dante bis Vico* (Bonn: Bouvier Verlag Herbert Grundmann, 1963), 322.

⁶⁶ Vico, *On the Most Ancient Wisdom of the Italians*, 31.

⁶⁷ *Ibid.*

⁶⁸ *Ibid.*

the face of ridicule and calumny”⁶⁹ That is, in other words, all Descartes has done is completely misplace the original target he was going for, by building a strawman. In particular, he did this because he conflated *conscientia*, or consciousness, with *scientia*, or science, where the former is described as “one of those things whose genus or form we cannot demonstrate.”⁷⁰ As Verene notes, through this move, “Vico has absorbed Descartes’s certainty into the true and has stood the traditional knowledge and consciousness on its head,” for now the natural sciences are revealed to be but “forms of consciousness.”⁷¹

Consciousness of thinking cannot, therefore, serve as down the road to any proper or legitimate science of being, despite the Cartesian dogmatist’s confidence in his claims, because science, for a skeptic or anyone else, should instead concern cognition *per causas*, which serves as the ground of objectivity. More specifically, Vico writes, “this ‘I’ who is thinking is both a mind and a body; and if thinking were the cause of my being, then thinking would be the cause of body, but there are bodies which do not think.”⁷² That is, both mind and body in conjunction cause *our* thinking, for, as he says, “if I were only mind, I would have perfect understanding.”⁷³ If we remember how Vico places stress on the creative aspect of cognition by making it, like Maimon, underlie the distinction of what it means to be a finite or an infinite understanding, as opposed to non-understanding, then the reasoning behind his point can be seen as an inevitably corollary. After all, as a mere sign, or indication, of being a mind, it is clear that thinking can never be the cause of my being a mind. To make matters worse for Descartes’ argument, Vico also makes sure to note that “no prudent skeptic ever denied the certainty of indications, only the certainty of causes.”⁷⁴ As Verene elucidates matters, one cannot conflate a principle of certainty with one of truth because the former “does not tell us the nature of the thing of which we are certain.”⁷⁵ This is because, as he explains, it “does not provide us with its form or cause; that is, it does not make it intelligible for us.”⁷⁶

In light of the rationale underlying Vico’s objections, I believe there is an interesting parallel in the relatively recent history of debates in epistemology that allows us to appreciate the salience and innovative nature of this anti-Cartesian line of argumentation. I am referring specifically to the debate that arose when G.E. Moore had argued against external world skepticism with his famous “here is one hand” argument, as found in his classic 1939 paper *Proof of an External World*, which sought to defend the value of common sense views. His argument in favor of an external world went as follows:

How? By holding up my two hands, and saying, as I make a certain gesture with the right hand, ‘Here is one hand’, and adding, as I make a certain gesture with the left, ‘and here is another.’⁷⁷

Ludwig Wittgenstein’s riposte to the argument, found in *On Certainty*, which was written around 1950 and only published in 1969, starts by making light of the fact that “[my having two hands is, in normal circumstances, as certain as anything that I could produce in evidence for it,” leading him to conclude contra Moore, “[t]hat is why I am not in a position to take the sight of my hand as evidence

⁶⁹ *Ibid.*

⁷⁰ *Ibid.*, 33.

⁷¹ Donald P. Verene, *Knowledge of Things Human and Divine: Vico’s New Science and Finnegans Wake* (New Haven: Yale UP, 2003), 110.

⁷² Vico, *On the Most Ancient Wisdom of the Italians*, 35.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ Donald P. Verene, *Vico’s New Science: A Philosophical Commentary* (Ithaca: Cornell UP, 2015), 12.

⁷⁶ *Ibid.*

⁷⁷ G.E. Moore, “Proof of an External World,” in *G.E. Moore: Selected Writings*, ed. Tom Regan (Routledge, London: 1993), 147-70, p. 166.

for it.”⁷⁸ The same flaw Wittgenstein believes to have detected in Moore’s solution to the problem of skepticism, is that which, in Vico’s eyes, Descartes’ *cogito* contains. That is, Descartes has committed a category mistake and sidestepped the entire crux of the matter by confusing the meaning of the certain with that of the true in an unjustifiable way.

This is, naturally, supposed to represent a devastating blow to Cartesianism as a whole. After all, if the *cogito* cannot serve its purpose, then the many grand philosophical dominos, such as the proof of the existence of God, which were immediately supposed to follow in the manner of corollaries from Descartes’ misleadingly grand conclusion will similarly all be unable to follow. As such, what Descartes accomplished with the *cogito*, in Vico’s eyes, can be properly said to amount to really nothing other than the construction of a massive castle in the sky that is neither here nor there in terms of remotely or properly accounting for and legitimating either the possibility or the reality human cognition. As such, *a fortiori*, it is completely useless for providing the sciences with the kind of proper foundation it supposedly provided them. Indeed, if what Descartes did with the *cogito* is of any value at all, for Vico, it would be that the etiology of the failure of his argument allows one to see rather clearly and distinctly, so to speak, what the real problem of skepticism is about, and thus to appreciate the genuinely robust force of the skeptical position and the challenge involved in refuting it.

V: A New Foundation for the Sciences: Responding to the Skeptics

Vico, then, tries to compensate for Descartes’ misplaced attack and ultimate failure to deal with the skeptics at all by presenting his own argument against them, which he presents in a very terse and abstrusely condensed number of lines. This is separate from his critique of Cartesianism *per se*, but it is interesting to note the drastically different approach he takes here relative to Descartes’ argument. This is also one which will represent, for Vico, the only possible foundation to properly set the sciences on a truly solid ground of the kind needed. Indeed, Vico’s conviction here is unshakable in this respect, for, he asserts, there will simply be no “way open to refuting skepticism about things themselves except that the criterion of the true is to have made it.”⁷⁹ In particular, he means this because what the skeptics lack is precisely any scientific cognition about the causes of effects that they are certain of. As he writes, they have doubts about the possibility of scientific cognition because, specifically, “they do not know the genera, or forms, by which each thing comes to be.”⁸⁰

One can effectively reconstruct Vico’s argument as follows by beginning with his initial claim that skeptics agree that there are effects and, *a fortiori*, causes of those effects. As it is, their whole thing, according to Vico, is that *if* we cannot know the latter to the fullest., that is, “the genera, or forms, by which each thing comes to be,”⁸¹ *then* there is simply no possibility of our making any proper claim to scientific cognition about them. This is, in brief, what skepticism is concerned with for Vico, that is, it is what justifies the skeptical attitude in the first place. Now, regardless of whether or not we can or cannot possess such scientific cognition, Vico believes the skeptic should at least accept that there is, in principle, a “comprehension of causes,”⁸² that is, one which contains “all the genera, or all the forms, by which are given all effects.”⁸³ That is, if when we discuss something like an omniscient being, we mean one that would have such a comprehension, which is obviously outside of our own

⁷⁸ Ludwig Wittgenstein, *On Certainty*, ed. G.E.M. Anscombe and G.H. von Wright, trans. Denis Paul and G.E.M. Anscombe (Oxford: Basil Blackwell, 1969), 33e.

⁷⁹ Vico, *On the Most Ancient Wisdom of the Italians*, 39.

⁸⁰ *Ibid.*

⁸¹ *Ibid.*

⁸² *Ibid.*

⁸³ *Ibid.*

reach, this is not because it cannot exist, and is contradictory, but simply because such a comprehension be of an infinite scope.

Indeed, considering the totalistic nature of all that would be involved in possessing such a comprehension of things, which is supposed to be the real first truth, and which we can think of as something like a Big Bang of all the truths that necessarily flow from it, whatever it is that can take that in must of itself must be infinite in nature, for part of what makes up the set of all these causes involves what is itself “prior to body”⁸⁴ and thus it must be “itself the cause of body.”⁸⁵ After all, to be able to take everything in this way technically requires to have created what it concerns, even if indirectly. For, if not, something else would always remain outside the set of causes one could comprehend. Consequently, this comprehension of causes, can only be found in that which of itself must be immaterial in nature while also capable of serving as an existential ground for being itself, that is, it can only be in what we would call God.

This understanding of the nature of this comprehension, it should be clear, is not one that is meant to do double duty by serving as a kind of concurrent metaphysical proof of God’s existence. Rather, what Vico believes to have demonstrated with his argument thus far is that there does, in fact, at least exist an undeniably objective standard of truth, for, no matter what we have or have not managed to discover as humans, there will always be, in principle, a possible God’s-eye-point-of-view of things, that is, of reality as such, even if we ourselves cannot access it. As objective, rather than subjective, we must therefore measure *our* truth according to that truth, that is, according to the properly divine science, which implies our imitating God as much as we can, in the active and, therefore, creative sense that brings us closer to truth.

By arguing in this way that human truths must always be measured according to the standard of God, it becomes impossible, in Vico’s eyes, for anyone to conclude that we cannot have scientific cognition about causes, for indeed, if we recap some earlier themes, Vico has already shown why and how “human truths are those whose elements we feign for ourselves, contain within ourselves, extend into the infinite through postulates,” and this in such a way that in the composition of these elements we are able to make, as he puts it, “the truths which we know in the composing.” As such, and “on account of all this, we possess the genus, or form, by which we make them,”⁸⁶ that is, we create the world of mathematics in the same way God creates the physical world. Similarly, and technically, one can also albeit only stumble into the truths of non-mathematical fields, including physics and so on.

I think that Vico’s argument against skepticism as presented above appears valid enough as a whole upon an examination of its rather simple logical structure, but this certainly does not mean it is sound throughout, or, if it is, it still is not clear that Vico’s conclusion would of itself be too exciting nor particularly reassuring when conceived of as a solution to the problem of skepticism. Supposing it were valid, it still does not establish, for instance, that we can or will in fact ever attain any kind of genuine cognitive access to human truths of a non-mathematical nature. Something more, after all, is always going to be needed for that.

Additionally, the more mainstream version of the problem of skepticism about the external world simply continues to linger in the background. This is because, while the argument, even if successful, would show that we can genuinely access infinite truths, and so on, as had been discussed earlier, none of this is tantamount, in any case, to any sort of cognition with respect to the things which make up the natural world, or of what we would call the objects of experience. Indeed, we already knew that Vico technically rules out the possibility of our even having the right claiming sufficient epistemic warrant so as to assert anything with the kind of confidence that differentiates an

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

educated guess from actual knowledge of something! So, for all intents and purposes, people might find that it is reasonable to want label to Vico a kind of skeptic, technically speaking, or from a philosophically mainstream perspective, and this even if his own version of skepticism is nonetheless successfully defeated by the argument he presents against it.

Furthermore, there is also a hidden assumption in Vico's argument that many would clearly disagree with. As it is, it even seems his line of argument's initial prospect of success either stands or falls on whether or not the assumption I have in mind here is in fact the case. This is one we have already discussed, which is his rationalistic thesis that a finite understanding belongs on the same intellectual continuum as an infinite understanding's, which is a claim for which Vico fails to provide any kind of sufficiently robust epistemic justification in his argumentation against the skeptics, as it is technically more of a hypothesis. After all, such a thesis is, in many ways, something which, at best, one can only assume to be the case. For its truth or falsity cannot be demonstrated either in nature or *a priori*, that is, philosophically, without also necessarily begging the question in the process, meaning Vico only postulate or accept it as a kind of epistemological dogma, and then one is assuming and using the fact of epistemic realism to defeat skepticism, which is probably not something Vico would agree with if aware of it, unless his argument was inductive in nature, or an interference to the best explanation, or something more in line with his pragmatic convictions.

I say all this because, if one supposes, for the sake of argument, that it is not in fact the case that humans can be said to belong on the same intellectual continuum as God, it seems that this would obviously raise significant problems with regard to the validity of certain metaphysical concepts like causality, which are presumed here as legitimate as seen in the very content of the premises in Vico's argument, which is not to speak of the question of their seemingly possible applicability or explanatory power in accounting for natural phenomena. Indeed, even if I have constructed a perfect mathematical proof, for instance, then how I can be sure that I am the same person at the beginning of my proof and at the end of my proof?

This last kind of question is legitimate because that possibility would surely be open in the absence of any assumption of epistemic realism or any sort of rationalist view of things, which of themselves imply possible cognitive access to reality. This is especially so if some kind of understanding is involved in cognition, as Vico defends. In such a case, I would not be able to trust my conclusion at the end of a proof, let alone the reliability of my memory throughout the process, even if all the steps on the blackboard, which I cannot simply process in an instant, are perfect, for cognitive access to that which constitutes the concrete reality involved in the abstract process of building a mathematical proof, which is only possibly carried out within a temporal framework, would otherwise be being taken for granted rather than being put into question the way a good skeptic or even a phenomenal idealist like George Berkeley might. If it is assumed, on the other, then it becomes much easier for Vico to "defeat" the doctrine of skepticism, specifically as he would seem to be putting the cart before the horse.

Of course, the case may well be the opposite, that is, Vico's rationalistic assumption is possibly true regardless of our own inability to prove it. However, even granting this point would clearly not be enough to establish actual soundness, only *possible* soundness, when it comes to Vico's argument. This is, I think, possibly the biggest difficulty in his entire argument. Indeed, if I am right in my interpretation of what he says, it would even seem to support the view that Vico's account of scientific cognition is perhaps still a little too close for comfort with the cognitive paradigm of a philosopher like Descartes himself, in that it never rids himself fully of the dogmatism he claims to oppose, especially if we take my reference to dogmatism here in its more its more Kantian key, so to speak.

What this would reflect is that Vico himself, who is a pragmatist of sorts who calls for epistemic humility and so on, implicitly accepts that certain metaphysical concepts and so on are in fact valid, which is what allows him to use a deduction based on purely *a priori* considerations to defeat

skepticism, as if he did not himself apply the *verum-factum*'s corollaries in the strictest fashion. That is, inductive logic is obviously fine from a pragmatist or probabilistic prism when it comes to reaching a conclusion about something, but, strictly speaking, the skeptic will not be pleased with the way Vico presents such reasoning in the manner of an *a priori* deductive argument in this particular case, which is what it seems he does. Regardless, this is not to say *the verum-factum* principle cannot defeat therefore defeat skepticism, but that Vico's argument against it may need a bit more tweaking before it can lay claim to that.

VI: Assessment

We have seen, then, the effects of the full deployment of Vico's conceptual apparatus against Descartes' philosophy, in that the view that the criterion for the true should be clarity and distinctness is rejected in favor of the *verum-factum* principle, which is the touchstone of Vico's metaphysics and epistemology, and which is also meant to serve as the key to understanding the limitations and presumably ultimate irrelevance of the *cogito*. The Cartesian foundations of science are thus deemed unfit for Vico because Descartes' ideas ultimately embody in the end, as L.M. Palmer writes, nothing but the "the confusion of the distinction between certainty, a psychological state, and truth."⁸⁷ This is because the mind, as we have seen, simply cannot know itself in Vico's account, seeing as it does not make itself. As a result, one can thus agree, in an important sense, with George de Santillana when he writes that Vico thus represents "the anti- Cartesian manifesto."⁸⁸

In another sense, however, de Santillana's assessment might be said to contain a tincture of sensationalism. I say this because, apart from what appeared to be some unexpected similarity when it came to Descartes' and Vico's account of the unity of science, it could be argued that, beyond this, there may be more similarities between them than first meets the eye. In particular, if one recalls the structure of Descartes' *Meditations* itself, one can reasonably say that it, perhaps surprisingly, displays some level of consonance with "Vichian" themes and concerns, and this in a non-trivial important way. I mean this in the sense that part of what Descartes does in his journey in the direction of the critical destination represented by the *cogito*, is to lead the reader alongside him, step by step, toward what is equally supposed to be a complete understanding of the origin of scientific cognition itself.

I mean this, in particular, in a meaningful, if not almost mathematically constructive, sense of the term, where there is knowledge of the causes for the wholly internalist nature of the Cartesian method's journey to truth is itself something that strives to follow the same mathematical kind of deduction, as reflected in the Cartesian's approach to the geometrical method in physics, which means that there are at least something of a similar impulses in both accounts of cognition. Specifically, the argumentation of Descartes' *Meditations* can be seen as representing, at least in theory, a kind of "witnessing," namely, one which, through rationally assenting to its arguments, lead us in ascent that can be said to amount, once we reach the summit that is the *cogito*, to a kind of making analogous on some level to the process of following a geometrical proof, where we fully grasp and understand each of the steps along the way.

Of course, the execution completely fails if one applies Vichian criteria more strictly. After all, how could Descartes prove that he is not insane, within a Vichian framework? That would be impossible. Similarly, how would he know that the evil demon did not confuse him into thinking the *cogito* was a self-evident truth? That too would be impossible without falling into circular reasoning

⁸⁷ L.M. Palmer, "Vico and Pragmatism: New Variations on Vichian Themes," *Transactions of the Charles S. Peirce Society* 38(3) (Summer 2002):433-440, p. 438.

⁸⁸ George de Santillana, "Vico and Descartes," *Osiris* 9 (1950): 565-580, p. 566.

from an orthodox Vichian perspective, as these are the kinds of moves Descartes makes that Vico's theory should not accept as legitimate, from a deductive point of view. However, even Vico did not strictly apply these himself all the time, which is acceptable because he is a pragmatist with a nuanced conception of objectivity, but this was shown to be more problematic in his own argument against skepticism, for it was presented as a purely deductive argument that itself was based on an analysis of the new meaning of scientific cognition that the *verum-factum* principle entails, one made so as to convince the skeptics on their terms, in attempting to answer them with an absolute kind justification in favor of the necessary falsehood that make up their position.

This all suggests, then, that at least the intention of what Cartesianism seeks, combined with Vico's hidden rationalistic assumption, which came to light in our analysis of his argument against skepticism, evidences some level of an unexpected closeness between them, at least in theory, and certainly not so much in practice. It was clear from that discussion in particular that there is an element of tension in Vico's account of scientific cognition that would only result from the fact that, at the end of the day, he can still be said to operate, as would have been natural in the early eighteenth century, within an epistemological paradigm that was not entirely different from Descartes' own, at least not in the more radical way that, say, Kant's transcendental idealism would be decades later, wherein objects must fully conform to cognition as opposed to the other way around.

At the same time, however, Vico appears to move significantly closer to Kant than Descartes himself does, for both Vico and Kant shift our attention, albeit to varying degrees, from the importance of having to center cognition around the idea of a God's-eye-point-of-view of the world to that of a world we ourselves construct, although for Vico this is, almost paradoxically, because it is only by doing so, that is, by simulating the former, that we can asymptotically get closer and closer to the former, even if only a very primitive level. Vico's approach, then, is far more anodyne in terms of its implications than what is implied by Kant's own Copernican hypothesis, but it is nevertheless extremely innovative and inventive as a form of constructivist thinking. This is especially so if one considers the fact that *DA* was published over seventy years before Kant came out with the first edition of his *Critique of Pure Reason* in 1781.

As a result of the way he has one foot in both the theocentric and anthropocentric camps, then, Vico is a bit of a maverick figure who thereby appears to have carved out a fairly exclusive liminal space for himself standing between pre-critical and critical philosophy, and this in a way similar to Maimon, as seen in our earlier discussion of the latter's strategy to fix the problems he saw in Kantianism. In particular, what Maimon ultimately attempted to synthesize was a unique combination of rational dogmatism with empirical skepticism, where the latter stance resulted from his acceptance of the former position, one his Leibnizian stance implied. Similarly, if I have read Vico correctly, it seems fair to say that a union of rational dogmatism and empirical skepticism would be one good way to label or interpret the implications of the view of scientific cognition that he presents in *DA*, even if he would, of course, never use such terms to describe himself, seeing as his stated philosophical enemies were precisely the so-called dogmatists and skeptics he addresses. In taking all of the foregoing into consideration, what we see, then, is that the early Vico's ideas ultimately must ultimately oscillate in a certain tension between what are their undeniably rationalistic, or even Platonic, commitments, which keep him affiliated to the more theocentric traditions of a figure like Descartes, and the more anthropocentric conceptions of cognition, and by this I mean as in the context of Kant's transcendental philosophy, which they clearly gesture at.

One reason for this unusual hybrid quality which marks Vico's thought is that, apart from that rationalistic character that pervades his theory of scientific cognition, the early Vico was also a very standardly modern thinker of his time than he seems to be given credit for in general for, albeit from another direction altogether. I mean this in that the Italian's intended philosophical identity almost seems to be that of the prototypical modern English philosopher, if I may put it one way. This was

evidenced, for instance, in the manner through which his metaphysics was supposed to serve as the handmaid for experimental physics, as well as by the fact of the obvious sway the giant specter of Bacon seemed to hold over the otherwise vast and kaleidoscopic nature of his metaphysical and epistemological thought. This is one most especially noticeable in Vico's emphasis on the theme of making, which clearly unite him to such traditions and which he then truly made his own. It was through this less dogmatic, but still modern, aspect of his thought, that he was, in the end, able to formulate such the highly unique conception of scientific cognition he presents in *DA*.

Finally, the early Vico's thought did not just make him a man of his time, as he was also shown to be something of a forward-thinking philosophical visionary at that. In particular, various of the philosophical positions implied, endorsed, and defended in his account of the meaning and nature of scientific cognition as found in *DA* were shown to presage much later future trends that not even the constructivism that defines Kant's philosophy could be said to foreshadow as easily. After all, the early Vico, as I have portrayed him, defends positions that resonate rather strongly with fairly recent traditions such as American pragmatism, but also very specific currents in contemporary epistemology, the philosophy of mathematics, the philosophy of language, and so forth. Indeed, he was also shown to implicitly endorse a kind of many-valued view of logic as well, as seen in the way he distinguished between *verum divinum* and *verum humanum*. Surely, then, further engagement with this generally neglected phase of Vico's career will only reveal much more that can be of interest to those working in a number of philosophical subfields, whether this be from a primarily historical or from a more contemporary point of view.