

CARTESIAN HYPERBOLIC DOUBTS AND THE “PAINTING ANALOGY” IN THE FIRST MEDITATION

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INTRODUCTION

First published in 1641 (in Latin), *Meditations on First Philosophy* is René Descartes most important and celebrated philosophical work. The book has remained one of the most significant and influential works in epistemology, metaphysics and philosophy of mind in the history of Western philosophy. The *Meditations*, six of them expand on Descartes’s philosophical system, which he first introduced in part four of the *Discourse on Method* (1637). They consist of the presentation of his metaphysical system in its most comprehensive level.

Notwithstanding the wide-ranging interests that the *Meditations* have generated and the numerous commentaries on them over the last three centuries some aspects of the book, most notably the First Meditation remain confounding and difficult.¹ This probably explains the reason as to why of all Six Meditations – and perhaps with the exception of the Second Meditation – the First Meditation has received the most attention from commentators.² What is it that makes MI confusing and yet intriguing? Part of the reason seems to be that it is not entirely clear what to make of the method of doubt that Descartes employs, i.e. the various skeptical and hyperbolic doubts: the famous dreaming hypothesis, the imperfect creator hypothesis and the evil genius or demon hypothesis).

The skeptical and hyperbolic doubts can be interpreted in a number of ways. First, as part of a general framework aimed at working out problems in the doctrine of God’s free creation of the eternal verities.³ Second, they can be interpreted as attempts to merely respond to and refute the bitter and troubling conclusions of the skeptic, in particular the late Renaissance rediscovery of, and fasci-

¹ See Carriero [2009]; Carriero [1997]; Gaukroger [2006]; Hatfield [2003]; Broughton [2002]; Rorty [1986]; Gueroult, [1985].

² Further citation to each of the Six Meditations would be referred to by M followed by the number of that meditation. For example, the First Meditation would be referred to as MI and the Second Meditation as MII.

³ See Gaukroger [1995] p. 316 ff for this interpretation.

nation with, ancient skepticism, i.e. Pyrrhonian and Academic radical skepticism.⁴ Third, one can interpret them as attempts aimed at destroying or undermining the foundation of a particular kind of belief system, namely, traditional Scholastic-Aristotelian philosophy.⁵ Fourth, they can be interpreted as providing the meditator the foundation for knowledge claims. Radical doubt in this sense provides a special heuristic value insofar as it helps the meditator to loosen the grip of his senses on his thinking and to inquiry into first principles.⁶

If we go by the subtitle in MI which simply and aptly reads, "what can be called into doubt," then it is clear that the focus of MI is on a particular kind of doubt—radical doubt. Descartes begins MI with the opening assertion concerning the need for us to "demolish everything and completely start again from the foundations" if we are to establish anything that is stable and likely to last.⁷ The reference to demolition and starting again from the foundation invokes a vivid building metaphor. To be certain that a building is properly erected on a solid foundation the builders must among other things guarantee the suitability of the foundation stones, they must ensure that the stones that are to be used for the foundation are truly tried and tested. They might do this by running a sledgehammer through the stones: those that are smashed to pieces are rejected and those that withstand the force of the hammer are classified as suitable for the building project.

Descartes's reference to a demolition exercise introduces us to a project and a method. The project is the general demolition of one's beliefs with a view to establishing secure foundations for science and the method is the general suspension of judgment of all beliefs that are the least bit doubtful. It can be said then that Descartes is drawing our attention to the fact that MI is a meditation with a specific focus: a meditation on universal doubt—for any belief, if there is any reason what-

⁴ On this interpretation see Curley [1978], p. 3. See also Conversation with Frans Burman, Descartes [1988] 3:347; AT V: 165 and Seventh Replies 2:374; AT VII: 548-49.

⁵ For this interpretation see Carriero [2009], ch. 1. On page 59 he says this about the dreaming doubt, "the role of the dreaming doubt is to overturn the naïve/Aristotelian foundations of knowledge by having the meditator question the sense fundamentally." And also, if we understand the First Meditation "as an attempt to get the meditator to put aside his pre-critical, sensory oriented picture of the world," then the sense in which the method of doubt can be interpreted as an attempt to undermine Renaissance Scholastic thought becomes evident. See Carriero [1997] p. 1.

⁶ For a discussion of this interpretation see Broughton [2002], pp. xi, 16-17, and chapter 6.

⁷ Descartes [1988], 2:12; AT VII, 17. And in the "Synopsis of the following Six Meditations" (2:9; AT VII, 12) Descartes gives us a clear statement about his project in MI: "In the First Meditation reasons are provided which give us possible grounds for doubt about all things, especially material things, so long as we have no foundations for the sciences other than those which we have had up till now....*The eventual result of this doubt is to make it impossible for us to have any further doubts about what we subsequently discover to be true,*" emphases are mine.

soever for doubting that belief, then one ought to doubt it. The point is that if the project of MI is stated in terms of universal doubt, then it seems right to understand each of the skeptical and hyperbolic doubt as intended to further this project. By this I mean that the goal of doubting for Descartes is universal, to question whatsoever that can be questioned for the sake of establishing anything that is stable and likely to last. This will make the first and second interpretations a bit dubious, and the third and fourth more plausible.

While the idea of a general demolition exercise suggests the third interpretation, the idea of laying a solid foundation for the sciences suggests the fourth interpretation. We might call the former a negative role of the method of doubt and the latter a positive role. On the negative view, Descartes employs the method of doubt to reject suspicious and questionable beliefs, his target being beliefs that are derive exclusively from sensory experience. And on the positive view, the aim of the method of doubt is to help us to inquire into first principles and the essences of things that can truly be known. Both interpretations are not mutually exclusive. It is certainly possible for one to know something in the process of trying to destroy and undermine something else. If one tries to smash to pieces a stone with a sledgehammer and if the hammer fails to reduce it to rubble but rather bounces off, the stone may be used to lay the foundation for a building. Understood in this way it can be said that Descartes employs the method of doubt for the purpose of undermining the meditator's confidence in sensory experience with a view to methodologically leading him from the physical world, which gives rise to naïve empiricism to an intellectual world congenial to mathematical physics.⁸

My aim in this paper is a rather modest one, to show that the "painting analogy" (a) occupies a central position in MI in the sense that it effectively links together the dreaming hypothesis, imperfect creator hypothesis and the evil demon hypothesis and (b) lays the groundwork for the claim that although it may be impossible for us to know things outside us as our thoughts represent them to be we can know at least the feature of our thoughts themselves. This is how I shall proceed. First, I shall begin by unpacking the content of the "painting analogy," after which I will show how the analogy effectively links together the dreaming hypothesis and the two other hypotheses: the imperfect creator hypothesis and the evil demon hypothesis. By using the analogy to link these hypotheses, Descartes creates the needed motivation for the meditator to completely suspend belief in sensory experience, the principle by which all her former beliefs were acquired.

⁸I will use both the feminine and masculine pronouns to refer to the meditator throughout the paper. I want to point out though that the alternating use of these pronouns has no sexist undertone.

The analogy is meant to raise the necessary doubt about the meditator's sensory nature, that is to say to get her to completely suspend belief in material or sensible experience. My claim here is that by paying attention to the subtle comparison between the dreaming hypothesis and the "painting analogy" the meditator is provided enough ground for distrusting her sensible nature and to perceive clearly the force of the claim that what is primary is the feature of our thoughts or the intellectual world.

To begin let me present the outline of the arguments for the "painting analogy" and the various hypotheses that I will be taking up in a moment.

The dreaming hypothesis:

P1. I often have perceptions very much like those in sensation while I am dreaming.

P2. There are no clear-cut signs to distinguish dream experience or world from waking experience or world.

Conclusion: therefore, it is possible that I am dreaming right at this moment and that all of my perceptions are false.

The painting analogy:

P1. It is possible that the images we form in dreams are composed of bits and pieces of real experience combined in some intuitively novel ways.

P2. Although we have reason to doubt the items of the composition in painting as real we have no reason to doubt as real the color of the painting, which is a pure simple universal.

Conclusion: therefore, although we have reason to doubt the surface perceptual qualities of our perception, i.e. what we seem to know from our senses we have no reason to doubt the mathematical properties or simple universals that material bodies in general have.

The imperfect creator hypothesis:

P1. We believe that there exists an all powerful God who has created us.

P2. The creator has the power to create us in such a way that we are completely mistaken in matters of mathematical knowledge or to make us to be deceived even about matters of pure and simple universals which we seem to see clearly.

Conclusion: therefore, it is possible that we are deceived even in our mathematical knowledge of the basic structure of the world even when this seems to us certain.

The evil demon hypothesis:

P1. Perhaps if God's nature as a perfectly good being means he would not deceive us it is possible that there is an evil demon.

P2. So, instead of assuming that God is the source of our deceptions, we will suppose that there exists an evil demon, who is capable of deceiving us in the same way we assumed God is capable of.

Conclusion: therefore, I have reason to doubt not just the surface perceptual qualities of my perception but the totality of my sensory experience and material world.

THE DREAMING HYPOTHESIS AND THE "PAINTING ANALOGY"

Descartes introduces the "painting analogy" immediately after the conundrum that is posed by the dreaming hypothesis:⁹ "there are never any sure signs by means of which being awake can be distinguished from being asleep."¹⁰ It is important to note that Descartes is not here denying that there is a difference between waking experience or world and dreaming experience or world. Given the fact that the waking world and the dreaming world are not semantically equivalent Descartes would be arguing against the obvious to say that there is no difference between them. The content of the waking and dreaming worlds might be indistinguishable. Epistemologically, we might be unable to distinguish between them but that does not mean that they are not different.

The failure to be able to tell what world we are in at this moment right here and now or the failure to be able to distinguish the difference between experiences of the waking world and experiences of the dreaming world may be a failure of our human nature, capacities and epistemological powers or cognitive limitations. Such failure, i.e. our inability to distinguish experiences of the waking world from experiences of the dreaming world is not necessarily an indication that both worlds are the same or that there is nothing to be said about the differences in both experiences. Read this way Descartes's interest in the dreaming hypothesis would seem to go beyond merely arguing that because the content of our experiences in all possible worlds (e.g. waking world and dreaming world) are the same the pursuit of knowledge is misguided and unjustified. This is because the view that we cannot acquire legitimate knowledge seems to contradict Descartes's aim of using methodic doubt (i.e. a sledgehammer) to demolish everything and com-

⁹ Although the dreaming hypothesis has been interpreted differently, it is generally agreed that its conclusion goes like this: beliefs based on the evidence of the senses are always uncertain, for the beliefs may turn out to be unreliable 'dream' evidence.

¹⁰ *Ibid.*, 2:13; AT VII, 19.

pletely starting again from the foundations with a view to acquiring beliefs that are "certain and indubitable."¹¹

Given the claim that it is certainly possible for us to know something in the process of trying to destroy and undermine something else it seems that Descartes is employing the dreaming hypothesis to make a stronger point, something like this:

1. If **S** were in World D (Dreaming World), **S** would believe that **S** is in World D (let us take this as our *p*).

2. If **S** were in World W (Waking World), **S** would believe that **S** is in World W (let us take this as our *q*).

P1. If *p* were true, **S** would believe **S** knows that *p*.

P2. If *q* were true, **S** would believe **S** knows that *q*.

P3. *p* is true and **S** believes **S** knows that *p*.

P4. *q* is true and **S** believes **S** knows that *q*.

P5. But *p* and *q* (1 and 2), although identical (in experiences) are different situations (Dreaming World and Waking World)

Conclusion: Therefore, **S** does not know that *p* and *q*. 3 and 4 are thus false.

Stating the conundrum that is posed by the dreaming hypothesis this way has the advantage of helping us to see clearly that Descartes is doing something quite striking. He is raising the stake for the meditator by making her rather suspicious of sensory experience. The thought being that once some doubt is cast on sensory experience the meditator is more likely to see the reason to be distrustful of the surface perceptual qualities of her perception and to suspend her reliance and belief in the senses. If the hammer successfully smashes the stone and reduces it to rubbles, then we are at least certain of one thing: the stone cannot be part of the foundation stones for the building. However, if all we know is this, then we haven't advanced much by way of knowledge and certainty: we *know* that the stone that is reduced to rubbles cannot be part of the foundation stones but we do not *yet know* which stones are part of the foundation stones for the building. This is where the "painting analogy" comes in.

Descartes introduces the analogy with two aims in mind: firstly, to close down any remaining gap in the argument for the dubitability of the senses and secondly, to show which stones are part of the foundation stones for the building. Thus, beyond reinforcing the argument that sensory experience is doubtful, the

¹¹ *Ibid.*, 2:12; AT VII, 18.

analogy makes a positive argument: that the intellectual world is primary. Hence, it could be said that the "painting analogy" is introduced as an attempt to limit the scope of the skeptical application of the dreaming hypothesis and to serve as a conduit to ferry the meditator from attachment to the external world via the senses to his "indubitable" consciousness or intellectual world.

Immediately following the dreaming hypothesis Descartes introduces the "painting analogy." "Nonetheless, it must surely be admitted that the visions which come in sleep are like paintings, which must have been fashioned in the likeness of things that are real, and hence that at least these general kinds of things – eyes, head, hands and the body as a whole – are things which are not imaginary but are real and exist."¹² The comparison between dreaming and painting is a very apt one. It suggests that just as painters employ models, our dreams must at the very least be based on prior acquaintance with objects that exist in reality; these objects supply the constituents of our dream content as well as the content of painting.

There are two parts to the "painting analogy." The first takes both the colors and the items of composition (eyes head, hands and the body as a whole, or at the very least the limbs of different animals that are jumbled together) to be real. The second part takes every item of the composition" to be "completely fictitious and unreal," and "the colors used in the composition" to be what is real.¹³ In both cases however, there is a similarity between painting and dreams: both are "fashioned in the likeness of things that are real."¹⁴ Descartes seems to be using the first part of the analogy to remind the meditator of the naivety of the standard empiricist's view that thought is passive and that it is the senses (which are active) that furnishes it all items of knowledge. In the second part, Descartes draws the meditator's attention to the fact that it is color that structures all the items of the composition, i.e. a necessary and indubitable element of our representation. The meditator would no doubt appreciate the force of the claim that color is a real component of painting if she ponders over the conclusions reached by the dreaming hypothesis, namely, the need to be wary of the nature of sensory experience.

Suppose all the items of composition in this painting which I have before me are completely fictitious, say, the painting is non-representational. Since the painting is non-representational it does not resemble anything ever known. Even though this may arouse in us an acknowledgment of the ingenuity of the painter

¹² *Ibid.*, 2:13; AT VII, 20.

¹³ *Ibid.*

¹⁴ *Ibid.*

we are left with the question: what is real in the painting? Put differently, since the items of composition of the painting are mix and match the same way dreams mix and match actual smell, sounds, sights scents, so forth, taken in while awake what in the painting can I ever consider to be real? It seems the meditator would be driven to say that although the items of composition are not real the color is. For if the items of composition of the painting before me are painted in yellow and blue and I am trying to learn about the world by looking at it, I can know this much: yellow and blue exist, therefore color is real. Admittedly this is not much discovery; but it is a start and presumably gets the meditator going in the right direction.

That the color in a painting is real is not the only claim Descartes wants to make. He also seems to be claiming that it is the color that gives "life," so to speak, to the items in the composition. In other words, colors are simple universals and simple universals are real and the essences of things, namely they endure throughout time.

By similar reasoning, although these general kinds of things – eyes, heads, hands and so on – could be imaginary, it must at least be admitted that certain other even simpler and more universal things are real. *These are as it were the real colours from which we form all the images of things whether true or false, that occur in our thought.*

This class appears to include corporeal nature in general, and its extension; the shape of extended things; the quantity, or size and number of these things; the place in which they may exist, the time through which they may endure, and so on.¹⁵

Things like hands, heads and eyes are general elements, which are themselves composites, and they can be arbitrarily combined as in dream or even by a painter, and hence can be fictitious. By contrast simple universals cannot be randomly combined. For not only are they not composites they are also not fictitious. If yellow and blue exist, then color is related to the items of composition as the essence of the painting much the same way that extension, shape, number, quantity and size (things which are often called determinables) are related to corporeal nature in general. By claiming that the reality of the "structure" (color or thought, i.e. simple universals) is not dependent on the "structure" (items of the composition or items of sensory experience) Descartes seems to be undermining the foundations of empiricism. For if spatial temporal features, i.e. general features of images are the basic elements of any sensory-imaginal representation, then if forced

¹⁵ *Ibid.*, 2:13; AT VII, 20, Emphases are mine.

by the dreaming hypothesis the empiricist would have to admit that what she can truly know are nothing both spatial extension and temporal duration.¹⁶

With an eye on certain developments in MII, Descartes seems then to be using the "painting analogy" to lay the ground for a picture of the nature of thought and the mind, i.e. the primacy of the intellectual world. Thoughts are intentional; they are *about* things just as paintings are *of* things. It may be impossible to know things outside us, i.e. the surface perceptual qualities of our perception as our thoughts represent them to be. But perhaps we can know at least the feature of our thoughts themselves just as, when I am gazing at a painting with different items of compositions, I cannot know with certainty if the items are real; but I can know that the pigments, the yellow and blue colors on the canvas exist and are real.

Thus the introduction of the "painting analogy" not only fortifies the meditator's skepticism about sensory experience, but gives her a basis to think that the claim that the intellectual world is primary is possibly true. One has reason to doubt the existence of the corporeal or empirical world exist if simple universals are independent of the corporeal and sensible world, or more precisely if the idea of simple universals is not formed by abstraction from corporeal instances. And if we have reason to doubt the very world that the senses putatively take its data from, then we certainly have reason to doubt as well the senses themselves and the truth of propositions in physics, astronomy and medicine since these propositions are about disciplines that study composite things.¹⁷

One can raise two worries for the "painting analogy" in particular, the argument that attempts to establish a link between the analogy and the dreaming hypothesis. First, the argument rests on the premise that paintings (and therefore dreams) are always, as it were, a mix and match of prior sensory experiences. This is a more plausible account about dreams and not necessarily about paintings. Second, it is not clear why color being a sensible quality should have the status of a simple universal. Descartes does not give us any argument as to why he thinks that color is a simple universal despite the fact that is a sensible quality. Perhaps Descartes is here taking color as relating to other simple universals in virtue of its unbreakable constituents of our representations. But since this is not crucial to the task at hand we can leave it for another time.

The "painting analogy" primes the meditator for the next task—an examination of arithmetic and geometry and other subjects that do not study composite things but which are about simple universals. Once we reject some stones as not

¹⁶ See Hatfield [2003] p. 78-79.

¹⁷ Descartes [1988], 2:13; AT VII, 20.

suitable for the building project because they have been reduced to rubbles and once we identify those stones that bounced off the hammer our most important task after that is to subject the latter stones to a little more rigorous investigation. Arithmetical and geometrical propositions (e.g. $2 + 3 = 5$, a triangle has three sides), Descartes says do not depend on corporeality. Seemingly, these propositions are true, certain and indubitable both in the waking and dreaming worlds. A hexagon does not cease to have six edges and six vertices just because someone dreams of it. If the color of the painting is the only real thing and if it is a pure and simple universal like mathematical properties, then the focus of the meditator should be on pure and simple universals and not on composites such as the items of the composition in the painting.

But is it really the case that mathematical properties are true "regardless of whether they exist in nature or not"¹⁸? Is the nature of a hexagon such that it has six edges and six vertices? Is it not possible that when I add $2 + 3$ and call it 5 I am really mistaken? Or that my nature is such that it makes me think of 4 or come up with 7 any time I add $2 + 3$? Is it not possible that I have an unstable and erring nature that affects my thinking and cognitive processes such that it makes me to always assume that 5 is the product of the addition of 2 and 3? These questions are questions about one's nature, about who is responsible for one's nature or being. By raising them in his mind the meditator is made to think beyond the question about the nature of pure and simple universals to the more general question about the cause and authority of his nature. It is not sufficient that the stone bounced off the hammer or that the stone was not reduced to rubbles by it for the hammer may be have been made in such a way as *to always bounce off* some stones.

THE IMPERFECT CREATOR HYPOTHESIS AND THE EVIL DEMON HYPOTHESIS

To address the issue of the cause and authority of our nature Descartes introduces both the "imperfect creator hypothesis" and the "evil demon hypothesis." Whereas the introduction of the evil demon hypothesis is meant to fix firmly what has already gone before, that is the previous skeptical and hyperbolic doubt the imperfect creator hypothesis is meant to raise questions about the authority and legitimacy of the meditator's cognitive faculty.

Recall that in the "painting analogy" the pure and simple universals, namely, real things like arithmetical and geometrical propositions are not undermined by the dreaming hypothesis. But whether they remain indubitable through time

¹⁸ *Ibid.*, 2:13; AT VII, 20.

and space is not absolutely certain especially if it turns out to be the case that our nature is such that it is mistaken any time we add $2 + 3$. That the stone bounced off the hammer is not enough reason for us to set the stone aside as part of the foundation stones for the building if the hammer is largely defective. What the imperfect creator hypothesis thus sets out to accomplish is to make us to be aware that although the dreaming hypothesis does not undermine simple universals and mathematical properties that does not in itself tell us that we are free from error or that the universals are indubitable through time and space. For we might have been created in such a way that no matter what we do and how hard we try we would forever err. Our nature might be such that no matter how much we seem to be seeing clearly or seem to know pure and simple universals we are mistaken in what we seem to see or know.

But we may suppose that the meditator has no basis to assume that his nature is imperfect or that he is created by a God in such a way that he is mistaken any time he adds $2 + 3$. It may actually be the case that it is inconceivable for an omnibenevolent God to do such a thing in the same way that it may be unthinkable for good parents to deceive or do bad things to their children. Given that to be all-good means to do good all the time and unconditionally the thought that an all-good God would deceive us or create us in such a way that we would forever err seems incoherent. But even if the meditator has no such nature that forever errs there is the possibility that there exists an evil demon that employs all its power to deceive him. The introduction of the evil demon hypothesis brings the meditator back to full circle—back to where he started, but in this case it is not the possibility that he might be dreaming at this moment, but that he is being deceived by an evil demon of his surface perceptual qualities of his perception, that he has "hands or eyes, or flesh, or blood or senses" or that he is 'sitting by the fire, wearing a winter gown, holding this piece of paper in his hand.'¹⁹

CONCLUSION

Having shown how the "painting analogy" effectively links together the dreaming, the imperfect creator and evil demon hypotheses let me conclude by showing how the claim that the senses are unreliable and that the feature of our thoughts is certain fits with Descartes's larger philosophical interest. Descartes's overarching philosophical interest is to give knowledge and science a solid foundation. He takes the solid foundation to be provided by the demonstrative met-

¹⁹ *Ibid.*, 2:15; AT VII, 23; 2:13; AT VII, 19.

hod—this is similar to the demonstrative method that Euclid employs in geometry. The demonstrative method is simply an *a priori* method, namely as a series of valid deductions from self-evident truths. In employing the *a priori* method to discover infallible knowledge one starts with innate ideas and then proceeds systematically from this to intellectual knowledge of the essences or forms of things which are acquainted in our perceptual and sensory experience of the corporeal world.

The "painting analogy" as we have seen pushes forward the claim that the feature of our thoughts or the intellectual world is primary. The intellectual world is not a world of sensory experience, but a world of essences. According to Descartes, all things, including the physical world which we know by sensible experience, have an inner essence. The presence of essences, which are known not by sensible experience but by reason explain the structure and pattern of things as they generally appear. These essences are the reasons why there are these structure, patterns and regularities in the material or corporeal world. And reason is the capacity to grasp these essences. To grasp the essences of things is to know *a priori* the structure, pattern and behavior of the things which they are the essences.

Therefore, in the acquisition of knowledge we must begin with the essences of things, for to begin with what has a pure, simple and universal nature is the sure guarantee of indubitability and certainty.²⁰ In the first rule of method in the *Discourse on Method* Descartes puts the point this way "[N]ever to accept anything as true if I did not have evident knowledge of its truth: that is, carefully to avoid precipitate conclusions and preconceptions, and to include nothing more in my judgments than what presented itself to my mind so clearly and so distinctly that I had no occasion to doubt it."²¹

If the color in the painting and not the items of the composition is what is real, then the color, as the "painting analogy" shows, is the essence of the painting, the same way that extension is the essence or nature of the material world (i.e. three-sidedness is (part of) the essence of triangularity) and thought is the essence of the mind. As pure and simple universal the color endures throughout time and structures the images of the items of the composition. The imperfect creator hypothesis furthers this idea by showing that the view that pure and simple universals are indubitable and endure throughout time is meaningful only in the context of our having the sort of nature that is not created to be mistaken. The "painting analogy" thus sets the meditator off on a methodical expedition aimed at address-

²⁰ See *Ibid.*, 1: 21; AT X 381-382 and 1:120; AT VI, 19.

²¹ *Ibid.*, 1:120; AT VI, 19.

ing the worry of the authority and cause of her nature with a view to discovering infallible intellectual knowledge of the essences of things which are aquatinted in our sensible experience of the material world. Once the stone survives the force of the hammer and if we have reason to be certain that the hammer is not defective, then the stone becomes a candidate for the building project. Once the pure and simple universals are solidly anchored, the meditator is provided the foundation for her subsequent demonstrations and truths, and thus would be able to infer any unknowns from the pure and simple universals, which are already known.

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