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Lucretius' Venus and Mars Reconsidered

M. D. Moorman

1. Asmis' Interpretation

The opening sections of Lucretius' *De Rerum Natura* have been the source of much puzzlement and interpretive speculation. Why does Lucretius begin with an invocation of the goddess Venus when one of the key tenets of Epicureanism is that the gods inhabit a distant realm of tranquility and are unconcerned with the affairs of men? Indeed, the Epicureans saw religion as a source of self-deception, error, and evil. This paper will attempt to ease the paradoxical tension present in these opening passages.

We will begin by considering Elizabeth Asmis' article, "Lucretius' Venus and Stoic Zeus,"¹ which offers an interpretation that she believes is "the key to a solution"² to this problem. We will agree with Asmis that it is interpretively useful to see a substitution for Stoic Zeus taking place in the text. However, we will argue against her interpretation on three crucial points: (1) that Venus *alone* supplants Stoic Zeus, (2) that Venus triumphs "utterly" over Mars, and (3) we will take strong exception to an argument she offers to 'save the text' via a distinction she draws between Zeus and Venus. We will then offer an alternative reading of the text, which, while falling well short of a "key to a solution," may make better sense of the text. We will begin by sketching Asmis' three central contentions, and then deal with them in reverse order.

The central contention of Asmis' article is that Venus is put forward by Lucretius as an allegorical rival to Zeus, the patron god favored by the Stoics. The Stoics and Epicureans were vying for converts to their respective ways of life and association with a traditional deity was seen as a kind of enticement to conversion. According to Asmis, Venus is identical to Zeus with regard to her omnipotence, but crucially different in how she wields her power over the

¹ Elizabeth Asmis, "Lucretius' Venus and Stoic Zeus," *Hermes* 110 (1982): 458-470.

² *Ibid.*, 458.

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cosmos. Zeus is “the omnipotent god who imposes his will upon the world by force.”³ Venus is “likewise omnipotent, but her supremacy is achieved by the allurements of pleasure.”⁴ Zeus represents the Stoic belief in the rule of reason, fate, and will, and it is by the imposition of will that Zeus rules and orders reality. Venus represents pleasure, desire, and freedom—she rules immanently from within the cosmos—a dominion of enticement rather than coercion.

It is probable that Asmis’ belief that Venus alone takes the place of Stoic Zeus is based upon her reading of the so-called ‘Mars Episode.’ On her view the god Mars is simply another of Venus’ subjects, “Venus’ power over Mars is just as immediate and pleasurable as her power over the cosmos as a whole and the animals in it.”⁵ This power over Mars is neither temporary nor recurrent, but permanent and final, “Venus utterly conquers Mars,”⁶ to rule alone in the place of Zeus. Asmis’ interpretation drops Mars and the relationship of Venus and Mars from the allegorical picture and, in so doing, makes a fatal error.

If Asmis simply demonstrated that the invocation to Venus was present in the text in order to erect an Epicurean rival to Stoic Zeus, we would still be left with an aura of paradox. So, she sets herself the more difficult task of answering the question “is Lucretius’ invocation of the goddess Venus in conflict with his belief that the gods have nothing to do with the world?”⁷ She offers two arguments for why the answer to this question is no.

Her first argument is enigmatic and appears to contradict her earlier assertions. She offers simply: “Venus is an allegorical deity, who in opposition to Stoic Zeus represents pleasure and a variety of functions derived from pleasure.”⁸ Does she mean that Venus is merely an allegorical figure limited in

³ Ibid., 463.

⁴ Ibid.

⁵ Ibid., 466.

⁶ Ibid.

⁷ Ibid., 469.

⁸ Ibid.

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the scope of her representation to pleasure and a few other qualities? If so, it is hard to see how this rather limited figure can be said to supplant Zeus as an equal with regard to omnipotence, and be a deity who “achieves everything that Zeus does, and more.”⁹ Even with such a watered down deity one would still be left to wonder why Lucretius bothered with any invocation at all.

Her second argument is better and much easier to grasp, but equally untenable. The gist of her argument is that Venus is an allegorical figure that represents the expulsion of the gods from active participation in the world of mortal experience. She admits that this argument is *prima facie* paradoxical, “. . . Venus represents precisely the freedom of the world from divine intervention. Venus, it turns out, stands for the Epicurean belief that the gods have nothing to do with the world. Paradoxically, a supremely powerful goddess signifies the ejection of the gods from the cosmos.”¹⁰ How does she argue for this paradoxical result? She holds that there is a critical distinction between what Stoic Zeus allegorically represents and what Venus stands for. The former “is identical with the order of the physical universe and the totality of bodies that make up the world.”¹¹ Venus, by contrast, “is nothing but the laws which govern the movement of the atoms in the universe.”¹² Here, she is not watering down her conception of the power and omnipotence of Venus, for Venus “is identical, just like Zeus, with the material cosmos.”¹³ The difference between them is that in Zeus the Stoics “exalt the physical to the divine,”¹⁴ but Venus stands for laws which themselves trump her divinity *qua* intervening actor and, hence, “Lucretius . . . uses the identity to eliminate divinity altogether.”¹⁵ So, Venus is an allegory for laws of desire, pleasure, and freedom, which apply to Venus

⁹ Ibid., 467.

¹⁰ Ibid., 469.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

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herself such that her divinity is expelled from the cosmos. She is subject to the very laws she represents.

Asmis grounds this argument on the following interpretation of a passage from Lucretius which she translates as follows, "I shall unfold the principles (*primordia*) of things, from which nature creates all things and increases and nourishes them, and to which the same nature dissolves them upon destruction."¹⁶ The key move by Asmis here is that she translates "*primordia*" as "principles" and then gives this term the sense of some kind of natural laws operative in the universe in such a way that Venus herself is subject to these "principles." She writes: "the reference to 'principles' suggests that nature is in fact nothing but these principles; it follows that the gods are themselves bound by natural law and not the arbiters of it."¹⁷

I believe this argument is fatally flawed and cannot survive a careful scrutiny of the passage from Lucretius upon which it rests. Asmis' critical error is her translation of "*primordia*" as "principles" and her interpreting "principles" to mean some kind of ruling laws along the lines of the laws of natural physics. Let us look at how some reputable translations deal with the same passage. The Loeb Classical Library edition offers "the first beginnings of things,"¹⁸ and this phrase is accompanied by a footnote that reads "the atoms."¹⁹ Latham translates it as follows, "I will set out to discourse to you on the ultimate realities of heaven and the gods. I will reveal the atoms . . ."²⁰ Martin Ferguson Smith offers "the primary elements of things"²¹ and this, too, is accompanied by a footnote that reads, "the atoms."²² This shows clearly that the "principles"

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Lucretius, *De Rerum Natura*, trans. W.H.D. Rouse and rev. Martin F. Smith (Cambridge: Loeb Classical Library, 1992), 7.

¹⁹ Ibid., note d.

²⁰ Lucretius, *De Rerum Natura*, trans. R.E. Latham (London: Penguin Books, 1994), 11.

²¹ Lucretius, *De Rerum Natura*, trans. Martin Ferguson Smith (Indianapolis; Hackett Publishing, 2001), 4.

²² Ibid., note 6.

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(*primordia*) of things are the atoms. These should not be construed as some kind of ordering law along the lines of modern physics, but *as beings*, that is, construed ontologically in a materialist sense quite foreign to contemporary notions of natural laws.

2. Venus and Mars Reinterpreted

We will subsequently take strong exception to Asmis' view that Venus alone supplants Stoic Zeus, this erroneous step is in part founded upon what I will argue is a misinterpretation of the 'Mars episode.' It will be helpful to cite a translation of the relevant passage from Lucretius.

For you alone can delight mortals with quiet peace, since Mars mighty in battle rules the savage works of war, who often casts himself upon your lap wholly vanquished by the ever-living wound of love, and thus looking upward, with shapely neck thrown back, feeds his eager eyes with love, gaping upon you, goddess, and as he lies back his breath hangs upon your lips. There he reclines, goddess, upon your sacred body, you bending around him from above, pour from your lips sweet coaxings, and for your Romans, illustrious one, crave quiet peace.²³

Asmis reads this passage to mean that Venus "utterly conquers" Mars— once and for all—such that Venus alone remains to supplant Zeus. The words "wholly vanquished" lend some credence to this reading, but there is no reason not to read it to mean that her power over Mars is temporary and recurrent. Hence, the text says Mars "often" succumbs to the charms of Venus. Two astute readers of the text have interpreted it in exactly this way. Henri Bergson wrote: "Venus, who exerts *some influence* on Mars, *may* be able to secure for him the

²³ Lucretius, *De Rerum Natura*, trans. W.H.D. Rouse and rev. Martin F. Smith (Cambridge: Loeb Classical Library, 1992), 5.

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peace required for philosophical studies.”²⁴ George Santayana took the view that “the Mars of the opening passage, subdued for a moment by the blandishments of love, is raging in all the rest of the poem in his irrepressible fury.”²⁵ Indeed he goes on to speculate that had Lucretius finished his poem he might have appended a scene which featured “. . . Mars aroused from his luxurious lethargy, reasserting his immortal nature, and rushing, firebrand in hand, from the palace of love to spread destruction throughout the universe.”²⁶ Asmis’ reading is a possible one, but it is interpretively more useful to view Venus’ conquest of Mars as temporary, for such a reading will allow *both* gods to supplant Stoic Zeus. It is better to view Mars and Venus as in an eternally recurrent struggle— with Mars temporarily held in abeyance by Venus’ seductive powers—only to reawaken regnant and rampant. This represents the eternal recurrence of life/ death, and being/ non-being—the being of becoming at the heart of Epicurean philosophy.

Asmis’ reading—with Venus timelessly triumphant— misses a very important aspect of the text: the intertwining and co-mingling of the two deities. Mars “reclines” upon the lap of Venus, and she, in turn, “bends around him from above.” Mars, god of strife and war is nevertheless subject to love and desire, and Venus has the breath of Mars “hang upon her lips.” The relationship of the deities is as crucial as either god taken simply as a *relata*. Paying heed to this relation allows one to view Venus as an allegorical figure for the atoms and Mars for the void. All phenomenal appearances are an admixture, a relationship of these two ruling principles: “since there is void in created things there must be solid matter round about it.”²⁷ Lucretius states that nature “compels body to be bounded by void and that again which is void to be bounded by body, so that

²⁴ Henri Bergson, *Philosophy of Poetry: The Genius of Lucretius*, trans. and ed. Wade Baskin (New York: Philosophical Library, 1959), 14 (emphasis mine).

²⁵ George Santayana, *Three Philosophical Poets*, (Cambridge: Harvard University Press, 1947), 42.

²⁶ *Ibid.*, 43.

²⁷ Lucretius, *De Rerum Natura*, Loeb Classical Library, 43.

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by this alternation she renders the universe infinite.”²⁸ The figures of Mars and Venus intertwined appear to mimic this mutual encompassing of void and atoms found in the phenomenal world. As Santayana writes, “The Mars and Venus of Lucretius are not moral forces, incompatible with the mechanism of atoms; they are this mechanism itself Mars and Venus, linked in each others arms, rule the universe together”²⁹

So, it is not Venus alone who supplants Stoic Zeus, but the twin allegorical figures of Venus *and* Mars. The former represents the atoms, peace, freedom, desire and the possibility of philosophy. The latter the void, destruction, war, and death. Mars and death are indispensable elements of Epicurean philosophy, for the figure of Venus alone “would really contradict a mechanical view of nature—if it were not balanced by a figure representing the opposite tendency, the no less universal tendency towards death.”³⁰ The whole promise of the Epicurean path is to learn to exercise our freedom and channel our desire so as to achieve a kind of divine peace. Fear of death is one of the key obstacles on this path. As Pierre Hadot writes,

A grave threat impairs human happiness. Can pleasure be perfect if it is disturbed by the fear of death As is shown with great force by Lucretius, it is the fear of death which is, in the last analysis, at the base of all the passions which make people unhappy.³¹

The would be Epicurean must come to understand that death itself is “more peaceful than any sleep.”³²

²⁸ Ibid., 85.

²⁹ George Santayana, *Three Philosophical Poets*, (Cambridge: Harvard University Press, 1947), 40.

³⁰ Ibid., 42.

³¹ Pierre Hadot, *What is Ancient Philosophy?*, trans. Michael Chase (Cambridge: The Belknap Press of Harvard University press, 2002), 117-118.

³² Lucretius, *De Rerum Natura*, Loeb Classical Library, 265

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Venus and Mars represent an eternally recurrent cycle of beginning and end, alpha and omega, birth and death. In between is the time granted for a human life and with it the possibility of philosophy. Venus stands for this possibility and hence she, and her powers of freedom and desire, is invoked at the outset. She, like philosophy, achieves peace by words—so she is implored to—“pour forth from your lips sweet coaxings,” to lull Mars into somnolent abeyance. This itself is an allegory for Lucretius' own poetry by which he hopes to remedy Memmius' and our 'sickness unto death.'

We have reviewed the shortcomings of Asmis' argument whereby Venus stands for the expulsion of the gods from activity in this world. We will now argue for a reading that draws a qualitative distinction between the Epicurean pair, Venus and Mars, and Stoic Zeus— such that the power of Venus and Mars are limited in an appropriate way. By this argument we hope to show how it is possible for Lucretius to invoke the gods, for these allegorical figures are limited in a fashion such that they are, in an important way, different kinds of deities (partaking in a more limited sense of divinity) than Stoic Zeus.

To accomplish this we will borrow a distinction from the scholarly discussion of the divinity of Anaximander's *apeiron*.³³ Three senses of divinity are usually distinguished: (1) divine in the sense of being unlimited, and unbounded, (2) divine in the sense of being everlasting, or immortal, (3) divine in the sense of a guiding rational will or mind. Presumably, Stoic Zeus is divine in all three senses. We shall argue that Venus and Mars, *qua* allegorical figures for atoms and void, are only divine in the first two senses.

Lucretius is clear that atoms and void are infinite with respect to limits, that is, divine in the first sense. He does this by pointing out the impossibility of either one being finite: “. . . if space were finite, it could not contain an infinite

³³ One might wonder how it is legitimate to import this into a discussion of Lucretius. It is offered simply as an interpretive tool that is admittedly imported from afar. It is simply an interpretive device and we are not implying that such a distinction was derived by Lucretius from Anaximander.

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amount of matter; and if matter were finite, neither sea nor land . . . could stand fast for the fraction of an hour.”³⁴

With regard to divinity in the second sense, as everlasting, there are three such beings: atoms, void, and the interaction of the two, the totality.

Again there can be only three kinds of everlasting objects. The first owing to the absolute solidity of their substance . . . are the atoms of matter . . . The second kind can last forever because it is immune from blows. Such is empty space . . . Last is that which has no available place surrounding it into which matter can disperse and disintegrate. It is for that reason that the sum total of the universe is everlasting . . . ³⁵

This does not appear to mean that any particular universe is everlasting, but only that there will always be some extant totality. We can see why it is important to never lose sight of Venus and Mars as co-mingled, for this relation is an allegory for the eternity of some phenomenal world as eternally recurrent.

Lucretius denies the third type of divinity to the atoms (and presumably the void): “certainly the atoms did not post themselves purposefully in due order by an act of intelligence, nor did they stipulate what movements each should perform.”³⁶ By this limitation fate, necessity, and will have given place to freedom. The atoms are not subject to the over-arching plan of a divine will or intelligence, chained like Marcus Aurelius’ dog to some inevitably moving cart; rather they are free, of themselves, by virtue of the *clinamen*. So, Venus and Mars— as allegorical figures for the atoms, void, and their interaction— can be distinguished from Stoic Zeus. They are infinite and immortal, but they do not intervene in the world in the manner of a divine mind or will.

³⁴ Lucretius, *De Rerum Natura*, Loeb Classical Library, 85.

³⁵ Lucretius, *De Rerum Natura*, trans. R.E. Latham (London: Penguin Books, 1994), 87.

³⁶ *Ibid.*, 35.

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In summary, we have agreed with Asmis that it may well be fruitful to take the view that Lucretius is offering some kind of allegorical substitution for Stoic Zeus in the invocation of Venus at the outset of his poem. We have attempted to show that her substitution of Venus alone does not work. Furthermore, we have tried to show that her argument that Venus represents “the elimination of the divine” is fatally flawed. Positively, we have argued that it is a better reading to have Venus and Mars supplant Stoic Zeus. Finally, we have offered our own argument—based on three notions of divinity—that there is a way to meaningfully distinguish the divinity of Stoic Zeus and Epicurean Venus and Mars such that the paradoxical dimension of the invocation diminishes.

Asmis had hoped that her article would provide a “key to a solution” to the paradoxes surrounding the invocation of Venus in Lucretius’ poem. I believe that we have shown that her interpretation suffers from some serious shortcomings. Indeed, I suspect that there cannot be and that we should not seek such a key. At best there can be more or less plausible readings which lesson the tensions present, but never succeed in eliminating them. This is because the great texts of philosophy often provoke wonder by beginning with familiar and unquestioned truths and then effect a reversal of sensibilities such that the reader is not sure what to think, or what to make of the former certainties, which have crumbled before their eyes. The invocation of Venus may serve just such a purpose, and hence we should not seek to remove, once and for all, the puzzlement that greets any thoughtful reader of Lucretius. Here, we hope to have offered a better and deeper reading—one that provokes thought—without dispelling all of the paradoxes inherent in the text itself.³⁷

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³⁷ I would like to thank Dr Therese-Anne Druart of Catholic University who first drew my attention to Asmis' article and the problems surrounding the invocation of Venus.

The Ethics of Memory in Thomas Hobbes' *Leviathan*

Benjamin Tucker

Many commentators on Thomas Hobbes' *Leviathan* have sought to explain Hobbes' ethical theory and the implications that his ethical theory has on the whole of *Leviathan*. Much of this commentary places fear and absolute submission to the sovereign at the center of Hobbes' ethical theory. The rationale for such a sovereign-centric reading of *Leviathan* is not altogether inaccurate, but based on my reading, none of these accounts adequately explain why Hobbes believed that a sovereign-centric ethic was the only way to peace. It is my view that memory, a key concept in Hobbes' philosophy that could add a great deal to the current scholarly discussion, has been unjustly left out of a majority, if not all, of the commentaries on Hobbes' ethical theory. In response to what I see as scholarly neglect of a key concept in Hobbes' philosophy, I intend to produce a memory-centric reading of the ethical theory that Hobbes develops in *Leviathan*.

I want to suggest that viewing memory, a concept that Hobbesian scholarship has pushed into the margins of *Leviathan*, as a foundational concept of *Leviathan* can produce new, exciting, and important interpretations of Hobbes' theories of sovereignty, ethics, epistemology, the state of nature, the state of war, the social contract, nominalism, and psychological egoism. The primary focus of this paper and my guiding question will be: Is there an ethics and/or morality of memory in *Leviathan* and, if so, how substantial of role does Hobbes' ethics and/or morality of memory occupy in regards to the main claims *Leviathan*?

The first concept that Hobbes creates and explains in *Leviathan* is imagination. The second concept that Hobbes creates is memory. Hobbes was a stout logician and, I will argue that as most logicians do, Hobbes begins his work by creating and explaining the most basic, foundational concepts of his complex argument. If this claim is true, the failure of Hobbesian scholars to consider memory and imagination as central concepts of Hobbes' ethical theory is quite a serious error.

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Imagination and Memory

A question may arise, if Hobbes' creates imagination before memory, then why am I writing on Hobbes' ethic of memory, rather than his ethic of imagination? The short answer is that Hobbes makes a very small distinction between the two concepts. Hobbes says, "...imagination and memory are but one thing, which for divers considerations hath divers names."¹ Hobbes was a materialist and believed that both imagination and memory were products of past experience. The difference between imagination and memory is that imagination is "...but a fiction of the mind." (L, 24) Hobbes believed that imagination was the combination of various possible experiences into the recollection or imagination of one impossible experience. To illustrate this point, Hobbes gives the example of a man who, through his senses, experienced at different times, a horse and a man. The observer then 'compounded' these two experiences into one creating the imagined experience of a centaur. Hobbes says that the testimony of such an experience is fictional, because the sensual experience of a centaur is an empirical impossibility.

Hobbes contrast imagination to memory, not by saying the memory is nonfictional testimony, but by saying that memory is testimony of an empirically possible experience. Hobbes says, "When we make a general assertion, unless it be a true one, the possibility of it is inconceivable." (L, 43) For Hobbes, then, true assertions are those that are conceivable, but he does not oppose true assertions to false assertions. Rather, Hobbes opposes true assertions to absurd assertions. Hobbes says that when people talk to him about an impossible event that is inconceivable, "I should not say he were in an error, but that his words were without meaning, that is to say, absurd." (L, 43) The individual's words are absurd, because they do not refer to a possible occurrence within the empirical world. Hobbes was an empiricist and considered a statement absurd if it referred

¹ Hobbes, Thomas. *Leviathan*. New York: Simon and Schuster, 1997: 24. From here on, this text is referenced parenthetically with the abbreviation: L.

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to anything sensually inconceivable or metaphysical, whether it be centaurs; or, 'a round quadrangle; or, accidents of bread and cheese; or, immaterial substances....' etc. (L, 43)

The most important point to keep in mind is that Hobbes draws no distinction between imagination and memory other than the possibility of the occurrence of the event testified about. What's interesting about this account is that for a memory to be considered true, it does not necessarily have to testify to the actual occurrence of an event. A true memory only has to testify about an empirically possible event. This is primarily because Hobbes distinguishes between two types of truth; knowledge of fact, which he attributes to memory, and knowledge of consequences, which he attributes to science. For Hobbes, the content of memory is derived from sense experience and representative perception. From this perspective, memories amount to opinions and beliefs about the physical world. Hobbes contrasts this to science, which he believes uses the method of ratiocination in order to obtain truth as knowledge or an understanding of the causes and effects of the physical world. (L, 45) From this perspective, the defining difference between memory and imagination is that imagination is an absurd belief in the occurrence of an event that is impossible, whereas memory is a belief in the past occurrence of an event that is possible. Hobbes' ideas about the truth of memories actually coincide with contemporary theories of memory developed in both psychology and cognitive science. Daniel Schacter, a psychologist at Harvard and one of the world's foremost experts on memory, says,

As I showed earlier in my book, *Searching for Memory*, we tend to think of memories as snapshots from family albums that, if stored properly, could be retrieved in precisely the same condition in which they were put away. But we now know that we do not record our experiences the way a camera records them. Our memories work differently. We extract key elements from our experiences and store them. We then recreate or reconstruct our experiences rather than retrieve copies of them. Sometimes, in the

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process of reconstructing we add on feelings, beliefs, or even knowledge we obtained after the experience. In other words, we bias our memories of the past by attributing to them emotions or knowledge we acquired after the event.²

Schacter's scientific observations show that memories are not 'retrieved,' but 'reconstructed.' The theory of reconstruction exposes the idea that memory is the recollection of one's past perception of an event is a utopian impossibility. Schacter's insight means that our memories, as Hobbes has argued, amount to beliefs or opinions that we currently hold about past events. On Hobbes' account, if I tell you, "I went to the beach yesterday," what I am really telling you is, "I believe I went to the beach yesterday." To discover the truth of this statement, the first step involves a careful consideration of whether I could have possibly went to the beach yesterday (Was I in town? Was it raining all day? Do I have transportation to the beach? Etc). The second step, according to Hobbes, involves assessing my reputation. (L, 58) This is a complicated step and to explain what Hobbes means by this we will have to take a minor detour through Hobbes' radical theory of nominalism.

Nominalism

For Hobbes, an individual's name is the signifier of her/his reputation. A reputation is a general understanding of someone's character that is developed over time. The temporal element of a person's reputation is an accumulation of individual or communal memories that others have about a diverse number of the given person's behaviors and actions. A person's reputation always involves what we remember about someone, and not, necessarily, what the person is currently doing in the present (although the present will soon become the past, and, as such, part of her/his reputation). According to Hobbes, the aspect of the individual that is used to refer to her/his character and reputation is the

² Schacter, Daniel L. *The Seven Sins of Memory*. Boston: Houghton Mifflin Company, 2001. 9.

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individual's name. For Hobbes, the name is the essence of all things that are named. In fact, Hobbes goes as far as to say, "that truth consisteth in the right ordering of names in our affirmations, a man that seeketh precise truth had need to remember what every name he uses stands for, and to place it accordingly, or else he will find himself entangled in his words, as a bird in lime twigs, the more he struggles the more belimed." (L, 36) If truth consists in the 'right ordering of names,' this must be the truth of science, because it is not about belief, but proceeds from the definitions of names to their consequences (I.e. My friend Jim has the reputation of being a thief, as a consequence of the definition/reputation of his name, when someone says that Jim is coming over I lock my jewelry cabinet).³

Hobbes makes his nominalism more complex though, he says, "From whence we may infer, that when we believe anything whatsoever it be, to be true, from arguments taken, not from the thing itself, or from the principles of natural reason but from authority, and good opinion we have of him that hath said it; then is the speaker, or person we believe in, or trust in, and whose word we take, the object of our faith, and the honour done in believing is done to him only." (L, 58) So, what happens when we accept someone's testimony is that

³ Some may object to my assertion that assessing someone's reputation is Hobbesian science. To the objection, I would say that it is science because it follows the pattern that Hobbes' assigns to science. "...when the discourse is put into speech, and begins with the definitions of words, and proceeds by connexion of the same into general affirmations, and of these again into syllogisms; the end or last sum is called the conclusion; and the thought of the mind by it signified, is that conditional knowledge, or knowledge of the consequences of words, which is commonly called science." (L, 56) The important point here is that scientific knowledge is conditional, so my ratiocination of 'Jim' may be quite different from someone else who has a different set of individual or communal memories associated with 'Jim.' In this case, I would have my own scientific conclusion about Jim's reputation and someone else may have a completely different scientific conclusion about Jim's reputation, but that doesn't make the knowledge of Jim's reputation any less scientific. It simply situates both my and someone else's conclusions about Jim's reputation as conditional knowledge.

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we go from assessing an assertion about belief, to a science of the person's reputation, back to a present belief in the person that causes us to believe her/his testimony. Avishai Margalit, the only philosopher who has written on ethics and memory, makes a similar assertion when he says, "My attitude towards a potential witness often is prior to my attitude towards her testimony. My belief in (her) is prior to my belief that (what she says is true) and cannot be reduced to the latter. I may in due course change my attitude to my witness, add some, and drop others. But this is a slow and painful process that has as much to do with loyalties as epistemology."⁴ Margalit often chooses to believe or reject the testimony of a witness, because of the reputation of the witness giving the testimony. The less often times that Margalit rejects a testimony on some basis other than the witness' reputation, he probably does so because the event testified about could not have possibly occurred. So, to assess my statement, "I went to the beach yesterday." One must first ask a question about belief, "Is it possible that Ben believes that he went to the beach yesterday?" Secondly, one must ask a scientific question about my reputation that allows you to make a judgment about where I am a believable person or not. Third, one must have coherence between their belief or disbelief in me and their acceptance or rejection of my testimony. The final two steps can be consolidated into a single compound question, "Given Ben's reputation, should I believe Ben's testimony that he went to the beach yesterday?"

This is the first aspect of Hobbes' philosophy in which we can say there is a moral obligation to remember. Within the interpersonal world, we are morally obligated to remember the names of people and the reputation signified by their name. To clarify my use of the term morality and my argument, I would like to draw a distinction between morality and ethics. My use of morality signifies individual obligations that one ought to follow in their personal life when dealing with interpersonal relations in order to maintain both healthy

⁴ Margalit, Avishai. *The Ethics of Memory*. Cambridge: Harvard UP, 2003. 181. From here on, this text is referenced parenthetically with the abbreviation: EM.

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interpersonal relationships, and a healthy psychological disposition. In the context of remembering proper names, this actually fits quite well with Hobbes' psychological egoism. From a psychological egoist standpoint, the reason why one ought to remember proper names is that remembering people's proper names and consequently their reputation is conducive to healthy relationships and minimizes pain. This moral obligation is not an obligation in the sense of a categorical imperative. The obligation to remember proper names amounts to something more like a hypothetical imperative (I.e. If you don't want to be hurt, then remember that Mike has a reputation of not fulfilling his commitments or If you want to show Alex that you care about her/him, then remember that Alex loves chocolate covered cherries). Margalit actually describes this obligation to remember in a similar manner, comparing the 'ethical ought' to medical advice (I.e. If you want to be healthy, then you ought to stop smoking). (EM, 105) But, I think Hobbes' would say that the fulfillment of this hypothetical obligation to remember is what separates the normal, psychologically healthy individuals from the psychologically ill.

The Ethics of Care

A recent, popular movement in ethical theory has been dubbed the ethics of care.⁵ Theorists working within the ethics of care distinguish between thick and thin relationships. Thick relationships refer to people that we have had long, personal relationships with (our friends, lovers, mothers, fathers, etc.). Thin relationships refer to people that we have impersonal, universal relationships with (humanity in general, Americans, etc.). Ethical care theorists argue that we have stronger moral obligations to those who we have thick relationships with and have weaker ethical obligations to those who we have thin relationships with (moral and ethical are used here based on the distinction I made between morality and ethics above).

⁵ See, for example, Gilligan, Carol. *In a Different Voice*. Cambridge: Harvard UP, 1993 or Held, Virginia. *The Ethics of Care*. New York: Oxford UP, 2007.

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A common example that ethics of care theorists use to prove their point is known as the drowning example. In the drowning example, you are faced with a choice to save only one of two people from drowning. One of the victims is your mother and the other is a complete stranger. Ethics of care theorists argue that you would save your mother, and that it would be the morally right thing to do. This moral obligation that we have to care more about those whom we have thick relationships with is the foundation of almost all ethics of care.

Caring and Remembering

To apply the ethics of care to Hobbes' morality of memory, one is morally obligated to remember the proper names of those that one has thick relationships with. This is of course still a hypothetical imperative and still, in my view, in alignment with psychological egoism and Hobbes' nominalism. In Hobbesian theory, remembering the proper name (which signifies both the person's reputation, as well as your mutual history) of someone that you have a thick relation with is caring about them, as well as yourself. Remembering a person's proper name is a sign that you care about them. Would anyone, especially a nominalist, be convinced that you care about someone if you cannot remember their name? Margalit goes as far as to suggest that forgetting someone's name amounts to killing them. Margalit says, "The idea that the essence of a person is referred to and expressed by a personal name gives the name a particular role in memory. And I believe that the quasi-magical thought of the survival of the name, as the survival of the essence, is what lies behind the doctrine of the double killing: killing the body and killing the name." (EM, 23) Margalit is not even a nominalist, yet he suggests that forgetting a person's name makes their very essence dead to you. From a nominalist's standpoint, the situation is even more drastic. It is not clear that a nominalist would even believe in the possibility of a double kill. A nominalist may hold that killing a person's proper name amounts to killing the person completely or at the very least destroying the thick relation between you two. For a nominalist, a person is nothing, but

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their name and the reputation tied to it. If no one remembers your name, you have no essence or reputation and you are as good as dead. And according to Hobbes, all bodies have one aversion in common, the aversion to death. But, remembering someone's name is also a sign that you care about yourself, because remembering a person's proper name and therefore the history between the two of you provides insights concerning how to behave in order to maintain the friendship or relationship. Hobbes says, "...to have friends is power: for they are strengths united." (L, 72) Power, for Hobbes, is what all people strive for, as well as the value or worth of a person. (L, 73) If the above conception of Hobbes' morality of memory is correct, then we can see that Hobbes' morality of memory, like his scientific knowledge, is not objective, but conditional. We have a moral obligation to remember proper names, on the condition that we have a thick relationship with the individual in question. The reputation that one establishes through remembering her/his friend's proper names and therefore caring about/maintaining the relationship is how one accumulates more power. Maintaining our powerful reputation is completely dependent on others. Hobbes says, "[power] is not absolute; but a thing dependant on the need and judgment of others." (L, 73) Those who are most qualified to judge us and most often need us are people who we have thick relationships with. Thus, we can see that, for Hobbes, in all interpersonal relationships, as well as in the psychological egoist's desire for the accumulation of power, there is a morality of memory that manifests itself as a hypothetical moral imperative to remember the proper names of those with whom we have thick relationships.

An Ethics of Memory

It seems clear to me that there is a morality of memory in *Leviathan*, but what about an ethics of memory? I believe we can begin to answer this question by closely investigating an interesting observation made earlier when dealing with the morality of memory. Hobbes has shown that with his method for judging the validity of interpersonal testimony, we can discover knowledge about the past

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that is not merely reducible opinion or belief. It is the middle, scientific step of Hobbes' method, in which we pay attention to the consequences of the witness' proper name and examine her/his reputation that can give us a clue as to whether or not there is an ethics of memory in *Leviathan*. But, to deal with the question of an ethics of memory in *Leviathan*, I think, it would be most productive to first discuss communal memory or history.

Doing Good History

What happens when we testify about events in the extremely distant past that we never actually experienced? This kind of testimony is what is commonly referred to as history. Hobbes says, "In a good history, the judgment must be eminent; because the goodness consisteth, in the method, in the truth, and in the choice of the actions that are most profitable to be known." (L, 60) It is not insignificant that Hobbes says 'In a good history,' rather than 'In an accurate history.' According to Hobbes, a good history is not necessarily accurate. A good history is one that has the most profitable effects on the contemporary social world. Hobbes' conception of history falls right in line with his theory of truth, which seems to be quite utilitarian in nature. Since we do not, often, have the reputation of the historian to aide us in judging her/his historical testimony, we have to rely on a hybrid of the first and second steps of judging interpersonal testimony as our methodological tool for the evaluation of the truth of a historical testimony. This hybrid amounts to judging whether the event could have possibly occurred by reference to the consequences of universal rather than particular names.

The State of Nature

I would like to explain this hybrid method by examining Hobbes' own historical testimony regarding the state of nature. Hobbes obviously did not live during the state of nature, yet he testifies that his conception of the state of nature is

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‘good history.’ To judge Hobbes’ account of the state of nature, we must examine the consequences of universal names. The universal name that Hobbes employs in his state of nature is the name ‘human.’ Hobbes says,

Of names, some are proper, and singular to one only thing, as *Peter, John, this man, this tree*; and some are *common* to many things *man, horse, tree*; every of which, though but one name, is nevertheless the name of divers particular things; in respect of all which together, it is called an *universal*; there being nothing in the world universal but names; for the things name are every one of them individual and singular. One universal name is imposed on many things, for their similitude in some quality, or other accident; and whereas a proper name bringeth to mind one thing only, universals recall any of those many. (L, 35)

Given the definition that universal things have a similitude in some quality, the method we must use to evaluate Hobbes’ state of nature is a version of his own reductive compositive method. To understand the universal name ‘human,’ we have to break down particular humans to expose their universal commonalities. Luckily, Hobbes, the good scientist that he is, has already done this for us. Hobbes says that the reductive compositive method shows that all humans are naturally driven by an ultimate desire of power and life, have an aversion to death, are psychological egoists, and are naturally equal. Given this definition of the human, if you place a bunch of particular humans that share these universal qualities into a shared territory without a government, with a scarcity of resources, everyone has the right to everything and most particular humans will live ‘brutish and short’ lives. Based on the consequences of names, if Hobbes’ reductive compositive breakdown of the human is correct, then Hobbes’ account of the state of nature seems to be highly plausible. Hobbes idea that the intense fear of death will eventually lead to the creation of the social contract seems like it has a high possibility of occurring as well, given the consequences of the universal name human. But, as noted above, Hobbes is interested in creating a

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'good history,' not an accurate history. So to decide whether this is a good history, we must examine the consequences of a belief in this history.

For Hobbes, good history is utilitarian. The consequence of good utilitarian history will promote the liberation of life and minimize the fear of death. According to this standard of truth, Hobbes' history is an almost unquestionably good history. If we believe that the state of nature has occurred in the past, then we are more likely to live commodiously under the sovereign's rule out of fear of returning to the state of nature in the present. This fear, created by a belief in Hobbes' history, is what is necessary to ensure that we obey the sovereign and live commodiously. Hobbes drives this point home when he says, "For the laws of nature, as justice, equity, modesty, mercy, and, in sum, doing to others, as we would be done to, of themselves, without the terror of some power, to cause them to be observed, are contrary to our natural passions, that use to partiality, pride, revenge, and the like. And covenants, without the sword, are but words, and of no strength to secure men at all." (L, 129) So the fear of returning to the state of nature (the sword), instituted by our acceptance of Hobbes' history, is what makes us give the sovereign our power (the words), which, in turn, creates the security of wo/men and ensures the sustainability of commodious living.

The Social Contract

In the above quotation, Hobbes suggests that "...in sum, doing to others, as we would be done to..." is the hallmark of a peaceful life. Hobbes' assertion is ethical and sounds suspiciously like the categorical imperative or the golden rule. What this Hobbesian categorical imperative amounts to is one half of Hobbes' ethical obligation. However, this imperative cannot be referenced to the universal name (or category) human. As noted above, Hobbes breaks down the universal name human to show that all particular humans left alone will cause a state of war. So, what category does Hobbes use to structure this imperative? The category could not possibly have existed before the social contract,

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otherwise the social contract would not be necessary. It is my contention that the universal name that Hobbes grounds his categorical imperative on is actually created through the social contract. This universal name created through the social contract is called 'subject,' although depending on the location of the people it is often referred to as nationality, such as, European, etc. I wish to argue that remembering the universal name of the people within the commonwealth is the first aspect of Hobbes' ethical obligation to remember. This obligation is ethical because the creation of the universal name 'subject' actually creates a thin relationship of care between all subjects. Unlike, the moral obligation to remember particular names, this obligation is unconditional and objective. You are ethically responsible to remember that everyone who is part of your commonwealth shares the universal name 'subject. And based on this shared universal name, you are ethically responsible to care about all the people in the common wealth as you would care about anyone that you have a thin relationship with. And as both Hobbes and Kant similarly argue, the ethical responsibility we have to people that we are in thin relationships with is that we do unto others as we would have them do unto us. This is the Hobbesian creation and defense of human rights, or perhaps more appropriately subject rights and it relies heavily on an ethical obligation to remember.

The Ethics of Honor

There is, of course, one other name created through the social contract, the sovereign, and that name, I will argue, is tied to the second half of Hobbes' ethical obligation to remember. The sovereign, by definition wields the power of all of the subjects and, as a consequence, has absolute authority. Hobbes says, "For by this authority, given [to the sovereign] by every particular man in the commonwealth, he hath the use of so much power and strength conferred on him, that by terror thereof, he is enabled to form the wills of them all, to peace at home, and mutual aid against their enemies abroad." (L, 132) The sovereign's mighty power is the second source of the fear that is necessary to ensure a

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commodious, peaceful life for the subjects and adherence to the Hobbesian categorical imperative. The relationship between the subject and the sovereign is neither a thick nor thin relationship. Hobbes modeled the commonwealth after the family and the sovereign assumes the rightful place of the father in the commonwealth. The immense debt that is owed to the sovereign for sustaining a state of peace creates a very deep, meaningful relationship, but the sovereign and the subject do not have a long, personal relationship together. The consequence of this unique relationship is that the subject is not expected to care about the sovereign, but to honor him. Hobbes creates a long, extensive list about how one can honor the sovereign. The list includes, prayer, obedience, gifts, to show love or fear, to praise, to believe, to agree with in opinion, etc. (L, 73-75) But Hobbes does not limit the methods of honor, he says, "...in a commonwealth, where he, or they that have the supreme authority, can make whatsoever they please, to stand for signs of honour..." (L, 75) In this relationship, there are several ethical obligations of memory. The subject must remember and respect the laws of the sovereign, remember what the sovereign deems signs of honor and honor her/him, and lastly, in order to carry out the aforementioned ethical obligations, the subject must remember the consequence of the artificial name 'sovereign.' The subject must also remember Hobbes' 'good history' of the state of nature and the process that led to the creation of the sovereign.

In summary, it seems to me that there are three distinct ethical / moral obligations to remember in *Leviathan*. First, there is the moral hypothetical imperative to care about those whom you have a thick relationship with by remembering their proper names. Second, there is the ethical categorical imperative to remember that everyone within the commonwealth shares the universal name of 'subject,' and, as a consequence of the thin relationship established by the distribution of this universal name, you should do unto other subjects as you would have them do unto you. Lastly, there is the ethical obligation to remember the artificial name of the sovereign and by necessary extension the 'good history' of Hobbes' state of nature, and, as a consequence of

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her/his name, the subject has an ethical obligation to honor the sovereign. It seems to me that a reading of *Leviathan* through the central concept of memory greatly explicates and provides an interesting new understanding of almost all of the central concepts of *Leviathan*.

Name Games

If, as I have argued above, Hobbes' philosophy is founded on a science of names and various ethical and/or moral obligations to remember names and 'good history,' then it seems to me that the Hobbesian social world amounts to a sort of Wittgensteinian language game. Jean-Francois Lyotard quite eloquently summarizes Wittgenstein's language games when he says, "What [Wittgenstein] means by this term is that each of the various categories of utterance can be defined in terms of rules specifying their properties and the uses to which they can be put - in exactly the same way as the game of chess is defined by a set of rules determining the properties of each of the pieces, in other words, the proper way to move them."⁶ For Hobbes, language games are less about utterances and more about names, but this description of language games seems to apply quite well to Hobbes' radical nominalism. Each name refers to a different set of rules that govern how the name's referent (the individual) is capable of moving (it is important to remember that Hobbes' defines freedom as movement). It seems that Hobbes, through the social contract, creates a massive language game of names. Lyotard actually backs up my suspicions when he says, "[language games'] rules do not carry within themselves their own legitimation, but are the object of a contract, explicit or not, between players..." (PC, 10) To piece together Lyotard's observation with my suspicion that Hobbes is perhaps one of the greatest inventors and players of language games, it would seem that, through the social contract, the rules of the commonwealth game are created.

⁶ Lyotard, Jean-Francois. *The Postmodern Condition*. Minneapolis: University of Minnesota P, 1984. 10. From here on, this text is referenced parenthetically with the abbreviation: PC.

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Through the social contract, the universal name subject and the artificial name sovereign are given their respective meaning, which includes the rules of their movement.

The next question one must ask is: "Why did Hobbes feel the need to create such a massive language game?" Lyotard refers to these massive language games as 'metanarratives.' Metanarratives are language games that have as their primary rule the intolerance of any other language game that cannot be subsumed under the metanarrative. Metanarratives are the giant stories we tell ourselves to explain the world and to justify action. Lyotard also talks about a second type of smaller narrative that he calls a petit narrative. Petit narratives do not attempt to subsume other petit narratives. Many of the players of these petit language games ignore other petit narratives until there is an issue of conflict, in which case there is a confrontation between players until one language game completely beats out the other. Now, keep in mind that Hobbes modeled the commonwealth after the family, which is a petit language game. In the state of nature, the existence of so many petit narratives within one geographical location caused conflict. Families could not negotiate or talk with each other, because they were all playing by different rules. As an analogy, think of a basketball player trying to play a game with a soccer player. Now, imagine that neither player knows the rules of the other's game. In such a situation, conflict out of frustration would certainly ensue between the basketball player and the soccer player. They cannot play a game together because both players play with a different set of rules. I hope that this simple analogy can help to show why there would be conflict between various individuals and families within the state of nature. This conflict, brought about by an inability of various people located within the same geographic area to understand and play the same game during encounters most often involves resource disputes and is why Hobbes needed to construct a metanarrative that would subsume all the petit narratives of the individuals' families and, as a result, eliminate conflict. It is important to note that the metanarrative does not eliminate other petit narratives but it subsumes them. It makes the rules of the petit narratives fall into

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alignment with the rules of the metanarrative. By virtue of the metanarratives encompassing behavior, families often remain stable, unique games by retaining some of their own rules, but none of the rules of these petit language games will be allowed to conflict with the rules of the metanarrative. It is important to note that even in this Hobbesian metanarrative, families, often, retain or create their own family-specific rules, because the uniqueness of a family's game is part of what allows for the continued existence of thick relationships. It is not only the common experiences that individuals within a family have that makes their relationship thick, but also the common history they share, by which I mean, the shared historical tradition of their own unique language game.

The new game of the commonwealth that Hobbes constructed uses both fear and psychological egoism to ensure that players play according to the rules. In these respects, Hobbes' language game of the commonwealth is not much different from contemporary sports. For example, the game of basketball uses the fear of fouls, ejection, fine, and suspension to ensure that the players play according to the rules. But, basketball players also follow the rules of the game based on their egoistic psychology. A basketball player plays by the rules, because that is what is required to be honored, rewarded, and ultimately, to win the game. In a very similar way, commonwealth players are motivated to follow the rules of the game by fear of a return to the state of nature and the sovereign's mighty power, and by their own desire for honor, peace, rewards, and a good reputation.

But how does Hobbes' language game of names relate to the ethics of memory? Not only does one have an ethical or moral obligation to remember the universal names of those one has a thin relationship with, the particular names of those one has a thick relationship with, and the artificial name of the sovereign, but one is also required to remember the *consequences* of these names. The consequences of these names are the rules of movement that the name applies to the player. We are not just required to remember that 'person x' is a subject. We are required to remember and respect the rights of movement that 'person x' has, by virtue of her/his being a subject. In short, we are required

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to remember because we *care* about ourselves, because we want others to remember our rights of movement. Because we want to escape the state of nature and to live in peace, we have both an ethical and a moral obligation to remember.

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Internal Injuries Some Further Concerns with Intercultural and Transhistorical Critique

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In the Fall 2008 issue of *Lyceum*, Jordan Bartol illuminates some problems with Axel Honneth's theory of recognition, ultimately concluding that it is insufficient for cross-cultural critique. In this paper, I first examine the differences between internal and external critique as described by Antti Kauppinen, and where both he and Honneth think recognition theory fits. I then examine Honneth's conceptions of self-realization and autonomy and argue that despite his attempts at establishing them as a universally held normative core for social critique, they are both individually and cultural relativistic. Furthermore, in an important departure from Bartol's argument, I suggest that it is not the question of progressive priority that we need to ask of Honneth's notion of historical moral progress. Rather, I contend that we must ask whether or not historical moral progress can be used for internal critique *at all*, since, as I argue, it points to external principles. Finally, I conclude that Honneth has insufficiently justified his theory of recognition as universalist internal critique and that at best, he advocates a mixed stance, composed of both internal and external methods of critique.

Forms of Social Critique

Axel Honneth's recognition theory is an attempt at establishing a normative ground for internalist social critique. Stronger than its externalist counterpart, this type of critique avoids the charge of relativism that can be brought against social criticism that appeals to external values. Although the universal norms that external critique appeals to are independent of actual human thought and action, it is precisely for this reason that it is problematic. As Kauppinen (2002) suggests, value pluralism forces universalist principles to be explained in extremely general terms so as to remain culturally neutral and thus, they become

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increasingly difficult to turn to when making value judgments (pp. 481). As a result, external critique faces the problem of either being too broad and abstract for any practical use, or being so specific that the user is forced to appeal to principles that are culturally relative, thus succumbing to ethnocentrism.

It is for this reason that internal critique is such an attractive tool for engaging in moral criticism; it is able to pass moral judgments by referring to inherent contradictions within a system. Simple internal critique is the most straightforward: by drawing attention to the contradiction between explicitly stated parts of a system, one is able to judge the system or institution as being morally corrupt or hypocritical. Kauppinen engages in this type of critique using organizations such as the World Bank and IMF as examples. Their explicit purpose, he writes, “is to help bring wealth and well-being to developing nations, while their actual practices all too often lead to the opposite results” (2002, pp. 484). Thus, by showing how the explicitly stated goals of a system are inconsistent with its actions, one can engage in a simple internal critique of it.

More complicated is a second, reconstructive form of internal critique, which requires one to evaluate a system based on principles which are not explicitly demonstrated. One can infer these principles and attitudes, writes Kauppinen, from the ways in which they are manifest, which might include unarticulated emotions and informal sanctions or perhaps partial articulations of religious customs and laws (2002, pp. 484). It is a strong version of this reconstructive internal critique that he attributes to Honneth’s philosophy of recognition. Indeed, by recognizing a subject as someone deserving of autonomy, rights or social esteem, you are applying an implicit normative evaluative framework to them. If this implicit framework is violated, as might be the case if certain lifestyles or customs are looked down upon (or, using Honneth’s language, denied esteem), then an attempt at internal critique, and a struggle for recognition are justifiable.

But what can be said about the implicit normative standards of recognition? If Honneth’s theory of recognition is to serve as the measure for

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moral judgments, it must appeal to principles that are universally held. What he is attempting to achieve is what Kauppinen characterizes as *strong* reconstructive critique, which requires that the implicit norms of mutual recognition in humans ought to tacitly refer to universal standards of value (2002, pp. 485). Much like the difficulties encountered in universalist external critique, strong internal reconstructivism must refer to principles that are broad enough to account for moral pluralism. In *Grounding Recognition*, Honneth attempts to answer the challenge put forth by Kauppinen. That is, to “[demonstrate] that the norms of recognition that are reconstructed in each case are not of a merely contingent character but have, rather, *necessarily* universalistic content” (Honneth, 2002, pp. 515). Honneth’s key to this challenge lies in personal autonomy and self-realization.

The Normative Core of Recognition

A brief examination of Honneth’s discussion of autonomy is necessary at this point. In *Redistribution as Recognition* (2003), Honneth rejects Nancy Fraser’s two-dimensional theory of recognition that holds parity of participation as its core. Her attempt at articulating a normative core for recognition holds that recognition claims are justified if they allow for increased participation in public life for an individual or group, without impinging on anyone else’s ability to do the same (Fraser, 2003, pp. 31). Honneth rightly criticizes this position as being culturally relativistic. Indeed, participation in public life is a virtue that has come to be held in high regard within liberal democracies in the West. It is uncertain whether parity of participation is valued as highly (or at all, for that matter) in other areas of the world. By adopting participatory parity as the normative core to her theory of recognition, Fraser is undertaking an ethnocentric external critique, though she believes it to be universalist.

Honneth, in turn, holds that autonomy and self-realization ought to be held as the normative core of recognition. He believes that this overcomes the difficulties that Fraser’s parity of participation encounters because self-

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realization draws its normativity from within the realm of recognition, thus being internalist. He writes,

What subjects can regard as dimensions of their personality for which they can legitimately expect social recognition at any given time depends on the normative mode of their inclusion into society [...] Thus, the corresponding social morality can also be understood as a normative articulation of the principles that govern the way subjects recognize each other in a given society. (Honneth, 2003, pp. 181)

Thus, rather than refer to an external principle such as parity of participation, Honneth holds self-realization as an internal normative principle, necessarily bound to recognition. The way in which we form our personal identity is derived from the relations of recognition that we experience. Accordingly, a social morality argues Honneth, is merely an articulation of the internal normative principles that we hold and employ when engaging in recognition relations.

I find this classification of self-realization as internal to be problematic however. By positing self-realization and autonomy as part of the recognition process, Honneth is entering into a form of question begging, where both recognition and self-realization are contingent upon one another. It appears as if he may be advocating a stance that self realization is formed through recognition, while simultaneously claiming that a social morality is an articulation of the mutual recognition of two parties' identities. If self-realization and autonomy are the goals of a struggle for recognition, then one might ask how it is that an individual can articulate their need for recognition if an autonomous image of the self – only achievable through recognition relations – is required to do so. If this is not the case, that recognition and self-realization are dependent upon one another, then Honneth has indeed escaped this criticism. However, it will require him to provide another explanation as to how autonomy and self-realization in recognition are capable of internal critique. In

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other words, if the end of self-realization is not accepted as normatively neutral on the grounds of its relation to the process of recognition, then he must show that it is universally normative in another way.

In *Grounding Recognition* (2002), Honneth articulates his position with this criticism in mind. His new stance considers a point made by Kauppinen, challenging the primacy of the norms of recognition. This challenge, writes Kauppinen, is “that the norms of recognition are *derivative* from more fundamental moral norms of self-realization, and these fundamental norms are relativistic, being specific to Western liberal societies that prize individual self-realization over other values” (2002, pp. 493). This challenge is similar to the one that Honneth has leveled against Fraser’s notion of parity of participation. Just as Honneth had accused participation in public life as being a culturally relativistic virtue, valued mainly by those in the liberal West, so too can it be argued that self-realization is relative, valued mainly by Western liberal societies, but not necessarily elsewhere.

Honneth’s clarification of his position takes two forms. First, in addressing the claim that the norms of recognition are derivative from the norms of self-realization, he rejects the charge of instrumentalism that Kauppinen levels against him. He writes, “It would be a mistake to follow Kauppinen in speaking of ‘recognition’ as merely secondary to a primary goal of ‘self-realization’; on the contrary, the point is that individuals’ autonomy can reach its *fullest development* only via the relevant recognitional responses” (2002, pp. 516). In other words, Honneth is claiming that self-realization is not the primary goal of recognition in an externalist sense. Rather, it is dependent on recognition, as individuals can only achieve full autonomy and self-realization through mutual recognition.

This claim is troublesome however, as I find it unreasonable to place the weight of self-realization entirely on recognition relations. One could imagine an individual who lives a life of solitude as being able to speak of himself as autonomous. Further, it is unfair to speak of such an individual as lacking altogether, or having a deficiently formed notion of self. Indeed, self-

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realization and autonomy can be developed through relations of recognition; however, recognition ought not to be considered a necessary condition for them, as Honneth believes. His talk about ‘full development’ of autonomy through recognition is vague, as he fails to clarify both what it means for one to be fully autonomous, and how recognition relations hold a monopoly on such development. Thus, his response to Kauppinen’s charge that relations of recognition are subservient to the normatively distinct and relativistic goal of self-realization is insufficient.

In a second attempt to address the charge that his conception of autonomy is relativistic, Honneth describes it as a more general principle, which he believes can be applied universally. He writes that a concept of autonomy or self-realization “should rather let differences come to the fore regarding the various cultural ways of realizing, within history, the *telos* of a relation-to-self that is free from domination or compulsion” (2002, pp. 517). In defining autonomy and self-recognition in these terms, he is taking a step back from his previous position which had been centered on the Western liberal conception of “the good life”. Indeed, by taking a more general approach to autonomy, Honneth has adopted a less relativistic stance. However, he has not been able to fully eliminate relativism from his position. His argument is that autonomy and self-realization are universal, insofar as they are to be considered as a sort of liberty for one to establish a relation-to-self free from domination. This notion retains, however, a relativistic aspect.

Consider the military as example. In such an institution, regulated by principles of strict discipline and obedience, autonomy and self-realization are not highly valued. If one were to pursue full autonomy within the military organization, as opposed to submitting and obeying orders from above, the entire chain of command would be undermined. If we imagine one who willfully enters the military - not through coercion or a draft – we could see that such an individual comes to form a conception of the self as a *direct result* of domination. It is possible in this sense to speak of a soldier who, in being recognized as a soldier, loses autonomy. In this case, identity is formed through

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relations that, under different circumstances, might intuitively be called misrecognition. Although one may argue that an exercise of autonomy was involved in the initial decision to enlist in the military, it cannot be doubted that identity formation and self-realization are brought about as a direct result of the domination and obedience required of soldiers. Thus, Honneth's claim that the norms of autonomy and self-realization are universalist is dubious; it is clear that self-realization and autonomy, although less relativistic than parity of participation, are principles that are more highly valued across cultural and demographic groups.

Historical Moral Progress as an External Evaluative Principle

Up to this point, it has been argued that the normative core of Honneth's philosophy of recognition – autonomy and self-realization – fails to capture the universality required in order to undertake strong internal reconstructive critique. Indeed, his inability to provide universal norms has reduced his theory to a *weak* reconstructive internal critique, described by Kauppinen as relying on “norms that simply happen to structure the practices of a particular society” (2002, pp. 485). I shall now proceed to argue that Honneth's philosophy of recognition is not, in fact, a form of internal critique; rather, it points to external principles when making moral judgments.

A crucial aspect of Honneth's stance, which has yet to be discussed at this point, is the notion of moral progress. In another attempt to show the universality of the norms of recognition (those of self-realization and autonomy), Honneth argues that historical progress holds the key to solving the problem of relativism. A distinct feature of the norms of recognition, he writes, is that they contain a “normative surplus”¹. He explains this concept in *Grounding Recognition* where he writes, “even when there is no apparent gap between the *de facto* practices and implicit norms, the ideals associated with the distinct forms of recognition always call for greater degrees of morally

¹ Also referred to as “surplus of value” in *Redistribution as Recognition*.

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appropriate behavior, than is ever practiced in that particular reality” (2002, pp. 517). In other words, no matter how closely - or even ideally – a society conforms to its implicit norms, it always ought to be presupposed that a higher moral reality is achievable. In this sense, Honneth believes to have overcome the obstacle of historical relativism; the norms of recognition are not static, but rather, they evolve with history.

This way of viewing moral progress as an indicator of normative universality poses some concern however. Arguably, the classification of Honneth’s philosophy of recognition as internal critique is drawn into question. One is compelled to ask how a principle such as a future society functions as an internal norm of a system. By using a non-existent and hypothetical future reality as the yardstick for normative judgment of the current state of affairs, Honneth would appear to be appealing to external values.

It may be argued in Honneth’s defense though, that although the notion of a normatively superior future existence is indeed not an internal feature of a society, it holds internal manifestation through the potential inherent within humans or through a negation of the status quo. Honneth writes, “as a result of the corresponding recognitional responses of legal respect, of love, and of esteem, subjects come to be able to identify with the three evaluative qualities to which they always already *potentially* have access, independently of all historical transformations” (2002, pp. 512). It is indeed possible to say, as Honneth implies, that the notion of historical progress is the articulation of an internal drive to actualize potentialities. This appears to be a more accurate characterization of the ‘surplus of value’ idea; the value horizons of the norms of recognition contain within them a notion of value that transcends the status quo and posits a qualitatively superior society. He writes that the norms of recognition “continually demand, from within themselves, the further perfection of our moral action, such that the historical process is characterized by a permanent pressure to learn” (2002, pp. 517). This notion seems somewhat troubling, as it appears as if Honneth is attributing the desire for moral

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perfection and rationality as being inherent in all persons. This aside, there is a more important issue to be discussed.

Honneth claims to be able to avoid the criticism that historical moral progress is an external principle by conceiving of it as a potentiality inherent in individuals. Left at that, however, the ability to make moral judgments regarding the current state of affairs becomes difficult. Indeed, for Honneth's norms of recognition to be universal and thus allowing him to pursue a strong internal critique, they ought to be found in something more concrete than a hypothetical utopia. It is for this reason that he turns to the past when passing judgment on the norms of recognition. He writes, "in order to show that the currently dominant norms of recognition are not just relatively but rather universally valid, *it must be possible to assert their normative superiority over all previous recognition regimes*" (2002, pp. 517).

The necessity for one to use the past when evaluating the norms of recognition is troublesome. While Honneth has been able to argue that recognition holds within it a surplus of value that allows individuals to use the implicit norms to posit a better society, he is unable to take this approach here. A past 'recognition regime' has no manifestation in the current social state, as neither potentiality nor actuality. Likewise, determinate negation of the present can speculate on a hypothetical future society, however it does not identify the past norms recognition or state of affairs.

It is on this point, I believe, that Bartol and I differ somewhat. Though I acknowledge that a past recognition regime might indeed be manifest in a present society as an evolutionary prior value system out of which the current society has grown, the values themselves are not necessarily an internal feature of the present society. Bartol's example of the historical expansion of the concepts of personhood and legal recognition to include African Americans and Aborigines illuminates my point. If we consider our present day society, S2 to have a value system evolved from an earlier stage of society, S1, then even though we can argue that indeed, S1's value system has developed into that of S2, *the values themselves*, mainly, the historically prior conceptions of

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personhood and legal recognition are nowhere to be found among S2's current value set. Thus, in order for one to argue that a present society is morally superior due to its expansion of legal recognition and personhood to African Americans and Aborigines, we must necessarily appeal to the value system of the past, whose articulation lies outside of the current system.

The question we ought to ask then, is exactly what does a society's value system imply about the past? It is easy to say, as Bartol does, that the norms of the present can be considered to be an evolved form of the norms of the past, but the concern that I have is that the norms of the present provide no descriptive explanation as to their past nature. To illustrate this concept with a simple example following Bartol's theme, one can say of society's present value system that "Our present society grants legal recognition to all." Implicit in this statement is not "Our past society granted legal recognition to white people." In order to access this description of a past value system, one must turn to the value system of the past, which lies entirely outside of the current system, regardless of how clearly its evolutionary progress can be observed. Thus, in evaluating the present against the past, one is essentially appealing to a principle that exists as entirely external to the social system they seek to evaluate. Though I agree with Bartol insofar as I believe Recognition Theory to be an inadequate form of transhistorical critique, we differ in our methods of arriving at this conclusion. Whereas Bartol has convincingly shown the problems of historical moral progress in transcultural critique, I hold that *the very concept* of historical moral progress is inherently flawed due to its dependence on external principles and thus, is unable to stand alone as a method of internal critique.

Concluding Thoughts

While both Honneth and Kauppinen characterize Honneth's philosophy of recognition as being an instance of strong reconstructive internal critique, I believe this categorization to be inaccurate. Autonomy and self-realization, which serve as the normative core of Honneth's Recognition Theory, are not the

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universal principles that he believes them to be. His claim that recognition is a necessary precondition for the development of full autonomy and self-realization is drawn into question when one considers the life of a hermit. Although he is not part of a legal system under which he can claim to have rights, surely it could be said that he is autonomous. Moreover, it is unreasonable to make the claim that he is unable to have a fully formed conception of himself, or that he is unable to undertake full self-realization. Additionally, when one considers the military institution as an example of a social construct that places limited value on autonomy and self-realization, these principles appear to be at least somewhat relativistic. Whereas Honneth describes self-relation as being the development of a relation-to-self free from domination or compulsion, a soldier's relation-to-self is precisely influenced by those principles of domination and compulsion. A soldier recognizes herself as an individual who submits to the will of the chain of command. This to me suggests that while Honneth has made a definite improvement over Fraser's parity of participation by positing autonomy and self-realization as the normative core of his philosophy of recognition, he still succumbs to relativism, albeit to a lesser extent.

Similarly, the characterization of Honneth's philosophy of recognition as being strong internal critique is questionable. Though it is possible to conceive of his notion of historical progress as being contained as a potentiality within the existing order, the turn to a past society as a means of evaluating the present is troublesome. By appealing to a past state of affairs as a method of determining the moral superiority of the present society, he is appealing to an external principle, as the norms of a past society are not necessarily implicit in the present. Thus, to use previous 'recognition regimes' as a yardstick by which

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we are to measure the present, we are in fact engaging in a form of external critique. Although Honneth has made explicit improvements upon Fraser's shortcomings, as well as useful revisions of his own theory, he has not eradicated the problem of relativism. I agree with Bartol when he suggests that his notion of historical moral progress must be abandoned in order for Recognition Theory to retain the character of internal critique. At best, I believe Honneth to be advocating a mildly relativistic hybrid criticism, which holds aspects of both internal and external critique.

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Universal Injuries Need Not Wound Internal Values A Response to Wysman

Jordan Bartol

In his recent article, *Internal Injuries: Some Further Concerns with Intercultural and Transhistorical Critique*, Colin Wysman provides a response to my (2008) article, *Is Internal Critique Possible?*. In his article, Wysman offers a very complex and robust account of the failure of Axel Honneth's theory of recognition. Wysman ultimately supports my assertion – that Honneth's theory fails to provide a universal ground for moral criticism – while arguing that the route by which I arrived at my conclusion was unnecessarily complicated. In what follows, I will provide a brief recapitulation of my argument and expand on how I take my position to be situated relative to Wysman's argument. Doing so will necessarily require an explication of the difference between my assertion that Honneth must provide a universal ground for criticism – as opposed to a culturally relative ground – and Wysman's insistence that Honneth provide an internal form of critique rather than an external one. I will conclude with what I believe to be a very dense philosophical and meta-ethical question raised by this exchange about the relationship between internal moral critique and the universal grounds for moral critique.

In my original piece (Bartol, 2008), I explained that Honneth was forced to rely on a theory of moral progress when attempting to adjudicate between competing tokens of cognitive norms.¹ In these instances, Honneth (2002) asserts, we must rely on the presumption of moral progress to determine which of a set of competing and conflicting moral norms are antecedent and which are the latter. It is Wysman's contention that by appealing to

¹ Though Wysman did not draw attention to the differences between our two accounts of moral progress, I should acknowledge here that Wysman's account is perhaps more faithful to Honneth's intentions than mine – though a full exploration of this claim is not possible here. That Wysman's account *is* more faithful can only be confirmed by a more rich explanation of what Honneth calls the 'surplus of validity.'

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diachronically prior norms, Honneth's theory necessarily fails. Wysman is correct in noting that this is an important departure from my critique of Honneth. In my 2008 article, I asserted that we must illustrate the problems with the *application* of Honneth's notion of moral progress before concluding that the theory fails. For Wysman, however, the fact that Honneth appeals to moral progress *at all* is grounds for dismissal because the historically prior norms to which we appeal when using a theory of moral progress are external to the lifeworld in question.²

Wysman was able to arrive at the conclusion that my approach to finding flaw with Honneth's theory was redundant precisely because his criteria for the success of a moral theory are different from mine. This difference is present implicitly in Wysman's article but I will here attempt to make it somewhat more clear.

In the section of his paper entitled, "Forms of Social Critique", Wysman provides the reader with a brief explanation of internal critique. In one of many points of convergence between our two positions, Wysman's explanation of internal critique is roughly congruent with what I referred to as the efficacy of Recognition Theory in the section of my paper entitled, "The Intersubjective Construction of Norms". This does not mean, however, that Wysman and I hold Recognition Theory to the same yardstick. Though he has not stated this explicitly, I take Wysman to be asserting that Honneth's theory – and perhaps *any* moral framework – will be deemed a successful universal and universally efficacious theory if and only if it can meet the criterion of both strong internal/reconstructive critique *and* provide a universal ground for moral criticism. It is at this point where the interstice between my position and Wysman's position begins to become visible.

As Wysman rightly surmises, internal critique is extremely valuable. Internal critiques lay bare the implicit and explicit norms of a given lifeworld and demonstrate incongruence between these norms and the action, decision, or

² For an explanation of the concept of a 'lifeworld' see (Bartol, 2008, pp. 58) or (Honneth, 2002, pp. 508).

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belief being criticised. This process lends a degree of rhetorical power lost when we attempt to affect change using norms external to the lifeworld within which we are working. This distinction between internal and external critique is often used interchangeably with the distinction between universal and contingent (or culturally relative) grounds for criticism. It is my contention that the universal/contingent distinction is *not* the same as the internal/external distinction. Becoming more clear on this difference will shed some light on the reason for the differences between Wysman's approach and my own.

When we are attempting an internal critique, we begin by identifying values (either implicitly or explicitly held) within a given lifeworld. We then utilize those values in our critique by demonstrating the way(s) in which they are being violated. Now we must concede that it is at least logically possible to identify a value that is held – either implicitly or explicitly – in *all* lifeworlds; this would be a universal value and thus a universal ground for critique.³ Attempts to locate such universal values often begin by looking into values inherent in human life as these are necessarily universally held by all human beings. Regardless, any value that is identified and proclaimed as a universal value must also be valued at least implicitly in *every extant lifeworld*. For such a value would hardly be universal were it not valued universally.

The studious reader might have noticed, however, that earlier I referred only to the universal *grounds* for a critique, not a universal *value*. Such grounds might be a universal value – as Honneth asserts recognition to be – but need not take the form of a value at all. A universal ground for criticism might be in a universal human action or a universally articulated feature of human social organization. Although, as stated earlier, an appeal to implicit values is necessary for a maximally effectual criticism, I would like to assert that it need not be those internal values that are the universal element of the critique.

³ That this will ever actually be accomplished is another story entirely. Axel Honneth certainly purports to have done so with the universal value of recognition. All I wish to assert here is that it is theoretically possible to identify a universal value.

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I thus disagree with Wysman's reasons for rejecting Honneth's theory. For Wysman, the appearance of external values in Honneth's method of critique was sufficient grounds for repudiation since no value can be both external and universal. While it is certainly true that no external *value* can be grounds for universal critique, it might still be the case that a universal critique might have a valid (non-value based) ground while relying on both internal *and* external values. This assertion is not something I have here the space to explore fully, but it is an assertion the validity of which I do not believe either Wysman or I have sufficiently ruled out. In an attempt to make this assertion somewhat clearer, I will conclude with a brief and preliminary sketch of what I believe a universally grounded critique relying on values both internal *and* external may look like.

In the section of his paper entitled, "Historical Moral Progress as an External Evaluative Principle", Wysman commented on Honneth's reliance on the concept of a 'surplus of value'. According to this concept, all lifeworlds contain the implicit conviction that, "no matter how closely ... a [lifeworld] conforms to its implicit norms, it always ought to be presupposed that a higher moral reality is achievable" (Wysman, 2009). Wysman rejects Honneth's reliance on this concept, asserting that by "using a non-existent and hypothetical future reality as the yardstick for normative judgement ... Honneth would appear to be appealing to external values." (Wysman, 2009). While Wysman is correct in his assertion that said values would be external and thus non-universal values, he might be wrong to conclude that this prevents Honneth's (or any) moral theory from being universalizable. While I still assert that Honneth's theory is *not*, as formulated, grounds for universal moral criticism, the concept of the 'surplus of value' might provide for us a model of a universal criticism that relies on both internal and external values.

If we accept provisionally Honneth's assertion that the surplus of value is present in all lifeworlds, we can begin to see a possible formulation of the type of universal moral theory I have in mind. The values to which such a surplus of value might point are certainly external to the lifeworld in which the

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surplus is to be found. I believe Wysman provides sufficient proof of this claim. Nonetheless, a critique based on the surplus of value claim would involve appeals to values both internal and external while being grounded in a universally articulated characteristic of human social organization (the surplus of value). First, such a critique would maintain the rhetorical efficacy of an internal critique by exposing the implicit norms of the lifeworld. Second, the critique would involve an articulation of the external norms of the previous or future lifeworld in order to expose the current norms as either primary or secondary (depending on the purpose of the critique) to the external norms. Finally, said critique could be grounded universally in the universal experience of the surplus of value.

As a matter of clarification, I do not necessarily endorse the aforementioned framework for moral criticism. Rather, I am using it to explore the possibility of a theory that is universally applicable while still using external values. As it stands, the above theory is too underdeveloped to either endorse or reject. What I hope to have provided is the beginnings of an investigation into the problem of universal moral criticism and its relation to internal and external values. I am thrilled that Wysman's response has afforded me the opportunity to bring some of these important issues to the surface. As expected, I leave this exchange with more questions than I when I entered – but I relish the opportunity to address more fully some of the questions that I have today left unanswered.

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Enumerative Induction as a Subset of Inference to the Best Explanation

Laith Al-Shawaf

In his paper *The Inference to the Best Explanation*, Gilbert Harman explains his position on enumerative induction. He first argues that inferences that seem to be instances of enumerative induction are actually better explained as inferences to the best explanation (IBE). He claims that the former are actually “uninteresting special case[s] of the more general inference to the best explanation” (Harman, 1965). Indeed, according to Harman, all cases of enumerative induction can be explained using IBE, making the former redundant as a separate form of inference. By contrast, the use of IBE need never be accompanied by enumerative induction, i.e. there are no situations that can be explained by the latter but not by the former. Enumerative induction is the process whereby a conclusion about, say, type A, is drawn based on several examined cases of type A. An often-cited example is as follows: if we observe one white swan, and then observe another white swan, and then another, up to a very large number of observations of white swans (with no exceptions), then we are likely to conclude that all swans are white. We have thus extrapolated from observed instances to a general conclusion that applies to other cases that are as of yet unobserved. Harman's second main argument in favor of his view is that in selecting a hypothesis to explain certain evidence, we often make use of certain lemmas. The use of these lemmas, according to Harman, is obscured if the process of hypothesis selection is described as one of enumerative induction, whereas the use of IBE appropriately highlights them as crucial steps in arriving at an explanation.

In arguing for the necessity of IBE, Harman begins by explaining the process of the inference to the best explanation. The process begins with the existence of several competing hypotheses, which all purport to explain the same data. The key is to then reject all of the alternative hypotheses in favor of the one that provides the best explanation for the data, inferring its truth from its superior explanatory power. Here, Harman admits the existence of a quandary:

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how to define “best”. Unfortunately, he chooses not to tackle the issue, merely mentioning in passing a few possible criteria: “which hypothesis is simpler, which is more plausible, which explains more, which is less *ad hoc* ...” (Harman, 1965). Clearly, the author believes that this issue can be dealt with later, after first establishing that there is no need to describe our inferences as inductive. In setting this task aside for later, Harman is assuming something that may prove to be problematic: that the task is indeed accomplishable. It may not be possible to objectively define “best”, which would pose a serious dilemma for philosophers attempting to use or explain IBE. Alternatively, as suggested by Okasha, we often define the “best” hypothesis as the one that has gained the most inductive support (Okasha, 2002). This, too, may prove to be a conundrum. These problems notwithstanding, many of Harman’s points still hold, and must be considered in the following paragraphs.

In order to convince us of his first argument, that enumerative induction is superfluous if we consider IBE, the author provides several examples that can be explained by IBE and not by induction. It is important to note here, though, that although such examples may establish the need for IBE, they do not necessarily show that enumerative induction is superfluous. The examples Harman gives include the way a physicist infers the existence of atoms and sub-atomic particles. He asserts that the inference of the existence of sub-atomic particles can only be explained using IBE. However, he does not explain why this is the case; he just assumes it to be so. Perhaps an explanation can be offered here. There isn’t a convincing sense in which inductive reasoning is being used to infer the existence of these particles, because there haven’t been any past observations verifying this hypothesis. In other words, the *first time* a physicist posited the existence of sub-atomic particles, she could not have been using enumerative induction, as induction extrapolates from cases that have already been fully observed to cases that are as of yet unobserved. Clearly, this is not what is happening here: we are not saying that since all observed things have had atoms and sub-atomic particles so far, the rest will too. Rather, we are making an entirely new inference about an unobservable entity, something that

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seems to be beyond the scope of induction. In our example, the physicist is looking at something for the first time; there exists no buildup of relevant past observations that can now be inductively used to explain what is happening in the present situation. Indeed, this is her first observation, and the first time she formulates this hypothesis! Thus, she cannot be extrapolating from the already observed to the as of yet unobserved. Rather, the scientist attempting to explain a novel phenomenon must be using something other than enumerative induction. The most sensible answer here is that the physicist selected the best explanation of the data: a hypothesis postulating the existence of such particles. There is a sense in which induction can *then* be used for many *other* unobservable entities in the future, after IBE has been used to speculate the existence of atoms and sub-atomic particles in the first place. In this sense, after the original claim has been advanced, similar findings in experiments may inductively suggest that all objects are made of atoms and sub-atomic particles. However, it seems inescapable that the *original* claim was made using IBE. In fact, it is tempting to say that this is usually the case with first-time discoveries, especially concerning unobservable entities. Certainly, it seems that the first time scientists suggested the existence of magnetic fields, quarks, and many other unobservable entities, they were using IBE. No other explanation provided a better fit for the data, and so the hypotheses were accepted. It seems impossible to construct a convincing argument for the use of induction in such cases. Again, it may be argued that *from then on*, inductive reasoning can be used to claim that because previous A's were said to have magnetic fields, and because a new object appeared to be an A as well (was similar in all relevant respects); this object should have a magnetic field. We will see in a moment whether it is indeed the case that we then use induction for future cases. For now, we can content ourselves with our demonstration that the original speculation seems to have necessarily been a product of IBE.

Now, let's move on to examine whether after the initial IBE inference, we might still be using IBE in future encounters with unobservable bodies, for it deserves greater elaboration. This point can be made in two different senses, and

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taken together, they may suggest that induction is actually just a special form of IBE. The first sense in which we are still using IBE at a later stage in the scientific process (as described above) is as follows: when trying to explain a phenomenon, it may make more sense (given the trouble with assuming uniformity of nature) to consider the particular phenomenon itself, excluding past observations of similar situations. So, for instance, if we want to argue that we have located an electron, it may make more sense to argue for this claim only on the basis of the evidence we have discovered in the present experiment, without resorting to the use of past experiments that supposedly produced similar discoveries. This is because, as David Hume pointed out, we have no reason to assume that the present and the future will be like the past. And, as he noted, it does not help to argue that we know that nature is uniform because it has been uniform in the past, since this is circular reasoning. Given this difficulty, if we simply consider the evidence of the present experiment itself, as outlined above, then we are unlikely to be using induction. Instead, each and every case (or experiment) becomes identical to the original inference, in which IBE was used to select the best explanation for the data.

The second sense in which induction is a subset of IBE may seem even more robust. In using induction, we extrapolate from the observed to the unobserved, assuming that (roughly) the future will conform to the past. Why do we assume this? The answer seems to be that *we infer its truth from the fact that it is the best explanation*. We seem to think that when something has applied so many times in the past, the best explanation for a similar situation in the future will be the same explanation used in the past. We reject the alternative hypothesis, finding it less plausible that (for example) our world will radically change and the Earth will stop orbiting the sun. This, then, is an instance of IBE: the rejection of seemingly inferior alternative hypotheses in favor of the one we regard as supplying the best explanation. In the sense outlined above, IBE is more fundamental than induction. Indeed, the latter seems to depend on the former, making it a special case of IBE. This is what Harman meant when he said that all cases of induction can be explained using IBE. In fact, Harman

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makes this second point – though without clearly articulating that induction is *systematically dependent* on IBE, as shown above. It is precisely this fact that suggests that it is impossible to think of a situation in which inductive reasoning could not be replaced by IBE. This would serve as a rejoinder to those who claim that induction is more fundamental than IBE, as the "best" explanation is the one that has the greatest amount of inductive support. Instead, this analysis suggests that inductive support is only ever accumulated because we use IBE to arrive at the conclusion that the future will likely have the same laws as the past.

For a final example of a situation in which we can only be using IBE, consider the following. Suppose we are trying to explain a particular phenomenon, and have had several past observations, leading to a buildup of relevant information. Unfortunately, about half of our previous observations and information point to explanation X for this phenomenon, and half of our previous observations suggest explanation Y for this same phenomenon. Or alternatively, all of our information points equally to both explanation X and explanation Y. That is, the two explanations do not differ in their predictions of the phenomenon under investigation. Either explanation would account for all of the evidence at hand. What should we do here? In picking between explanation X and explanation Y, we need to use IBE. We are clearly not using induction, since, as we've said, our inductive reasoning makes us completely undecided about which is better, explanation X or explanation Y. Given that they have the same amount of inductive support, we must use some other method to discriminate between them and decide which is a better explanation. What we would do in such a situation is as follows: reject the seemingly inferior explanation in favor of the "better" one. We may use such criteria as parsimony or which explanation is less ad hoc. This method of choosing between competing explanations by choosing the superior one is a process of Inference to the Best Explanation.

Harman's second main argument is that in explaining the evidence at hand, we often make use of certain lemmas. The crucial role that these lemmas play is obscured if we describe the inferential process as inductive. If we

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describe it as IBE, however, then their role is properly established. In order to clarify his point about exposing or obscuring lemmas, Harman presents us with two examples. The first is that when we hear someone say something, “the inference which we make from testimony to truth must contain as a lemma the proposition that the utterance is there because it is believed and not because of a slip of the tongue” (Harman, 1965). Similarly, if we see somebody quickly withdrawing his hand from a hot oven he has just touched, we infer that his hand hurts. In this case, our lemma is that it is the pain that caused the withdrawal.

According to Harman, describing such inferences as instances of enumerative induction masks the lemmas involved. Indeed, the implication of this for the first example, as Harman points out, is that we would be able to find all the past correlations between a person’s utterance of something (and the circumstances surrounding it) and its truth. Then, using induction, we would say that the inference is simply from the past relationship between utterance and truth to the present case. The same process applies to the second example, with correlations between such a behavior and pain. As Harman asserts, these accounts hide the “essential relevance” (Harman, 1965) of the lemmas that the speaker believed the statement, and that the pain was responsible for the withdrawal, respectively. Here, a possible response to Harman would be that if indeed, all past instances/correlations showed that people do not pull their hands away because of pain, but rather because of fury (for example), then perhaps we would be inclined to say that this person is furious, not in pain. In such an instance, it would seem that we used enumerative induction. However, Harman could counter this response in one of two ways. He could say that we are still using IBE, because given all the past correlations, the assumption that the same explanation holds in the present is indeed the better explanation. This is an instance of the previous explanation of why induction may be seen to be systematically dependent on IBE. Alternatively, he could say that we are still using IBE, but a different lemma is playing a part: the idea that the person’s fury

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is responsible for the withdrawal of his hand. Perhaps he would opt for the second reply, as it highlights the lemma involved.

Although this may seem like a novel idea, it shouldn't strike us as too surprising. It should be relatively uncontroversial to hear that we have intermediate beliefs that help us to arrive at an explanation of a given phenomenon. After all, the suggested alternative is that we use enumerative induction and simply project the correlation from past into the present and future. Perhaps a final example can elucidate the idea further. Suppose I notice that Jack is soaking wet, and I explain this by saying that it is currently raining. If I have done this through a simple examination of past correlations (i.e. usually someone is wet because it has rained on them), then I obscure the roles of some very important lemmas. These lemmas include that Jack was outside in the first place, and did not have an umbrella or a trench coat. Clearly, these intermediate lemmas did play a role in my explanation, because I would not have postulated rain as the cause of Jack's wetness had I thought that he was equipped with an umbrella. It is clear, then, that describing the inferential process as one of IBE - as opposed to one of enumerative induction - highlights our use of lemmas.

Perhaps a much bigger potential problem for Harman is not whether we use lemmas, but rather where our lemmas come from. What if the lemmas themselves are based on enumerative induction? This reply would suggest that the reason we think pain is responsible for the withdrawal, or that the utterance was made because the speaker genuinely believes it to be true, is because it has been so in the past. This would be a predicament, because given Harman's assertion that the lemmas are an ineliminable part of IBE, it would make IBE dependent on enumerative induction. It seems, however, that this objection is escapable, as Harman could respond by saying that our lemmas are based on intuitive reasoning, not enumerative induction. Perhaps this would be a plausible reply, as it does seem as though we attribute withdrawal to pain because it is intuitively satisfying. However, Harman would probably need to account for *why* we find this explanation intuitively acceptable. Alternatively, we may be attributing withdrawal to pain because we have had similar

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experiences, and are using IBE to arrive at the conclusion that other minds exist and operate in roughly the same way as ours. However, there are special cases that do not seem to conform to this model. If we have witnessed someone accidentally touch an oven several times and quickly withdraw his hand each time, explaining that he didn't feel any pain (maybe he has a faulty nervous system), then perhaps we would not be inclined to attribute withdrawal to pain the next time we witness such behavior. Our lemma might instead be the reason he cited in the past, such as fear of an ugly burn on his hand¹. This may show that there are certain instances in which it is harder to rule out the use of enumerative induction in establishing lemmas. Nonetheless, it may still be possible to rebut such an argument by claiming that the lemma in use would be that the person is likely to stay the same, or maintain the same faulty nervous system.

In essence, Harman's claim that enumerative induction masks the vital roles played by lemmas in our inferences is a solid one. Though there may be certain instances in which the lemmas may appear to be partly induction-based, the claim holds for most cases and the objection is avoidable. Further, his argument that enumerative induction should not be viewed as a separate form of reasoning is also powerful, although he does not articulate the full slew of reasons why this is so, as this paper has attempted.

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¹ This is similar to the reply in the preceding paragraph, with a slight but important difference: the preceding paragraph concerns the inference possibly being based on induction, whereas this point specifically concerns the lemmas.

Enumerative Induction

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On Epistemology of the Celestial Realm

Aditya Singh

1.1 Introduction

Astronomy is the branch of science concerned with the study of matter in outer space. The methods of constructing knowledge in astronomy are unlike those which are used in other fields of scientific inquiry. This is particularly so because astronomers deal with processes which, many-a-time, cannot be either explored experimentally or observed given present day technology. In this paper, Rationalistic tools, like mathematics and logic, and Empirical tools, like sense observations and quantitative measurements, are discussed as complementary approaches for constructing astronomical knowledge.

From the discussion that follows, it will be shown that for producing a sound and reliable theory in astronomy, one must follow a *mathematico-deductive* pattern of starting with a rationalistic approach and developing a general relation describing a phenomenon. This relation should then be confirmed empirically through *specific* observed data. On the other hand, inductively forming a generalization by directly using empirical data in a conventional *hypothetico-deductive* model faces a high risk of resulting in inaccurate astronomical knowledge.

1.2 Scope of Thesis

The argument presented shall work on the assumption that nature is uniform, and the analytic rules of logic and mathematics relate to the physical world as shown by the equations and theorems. *Uniformity of Nature* implies that an event that occurs at one place and time will occur again at any other place and time if the relevant conditions are the same. This assumption is required for the working of any law.

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Also, for the purposes of discussion, empiricism will be discussed in the context of *Direct Realism*, where sensory perceptions are a reliable source of information of the external world. This assumption is necessitated for a pragmatic analysis of the scientific method, as sensory observations are considered essential components for constructing knowledge in the sciences.

Also, as Immanuel Kant pointed out, ‘all our knowledge *begins* with experience, but it does not follow that all our knowledge *arises* out of experience’. The difference between the two should be understood, since an empirical observation is required to kick-start any search for knowledge, even in the case of astronomy. However, the empiricists’ point discussed in this paper is the one that claims that sense datum can be *used* to construct knowledge vis-à-vis the scientific method in astronomy.

2.1 The Scientific Method

The Scientific Method is the process by which scientists construct an accurate representation of the world using a set of standard techniques, which help minimize the influence of biased beliefs on the development of a theory. Scientists rely on two distinct types of analysis for creating theories and explanations in any field: *Inductive Reasoning* and *Deductive Reasoning*. While inductive reasoning involves extrapolation from a set of finite observations, deductive reasoning is based on a system of syllogistic logical arguments, or on *a priori* statements, like those in mathematical conjectures.

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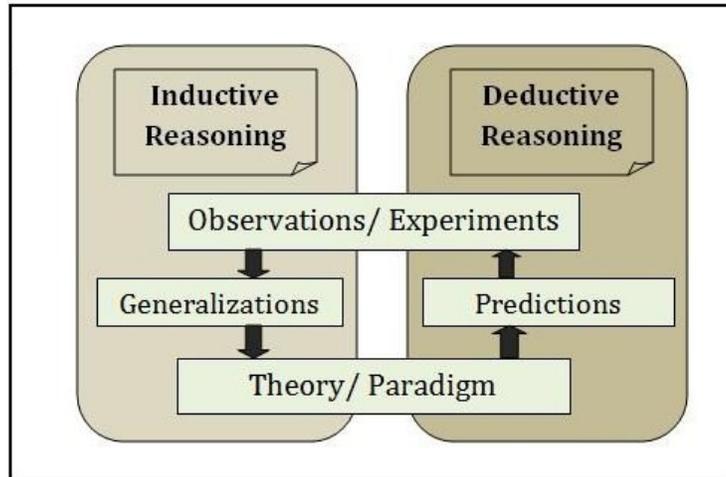


Figure 1: Diagrammatic flow of Inductive and Deductive Reasoning

The conventional Scientific Method makes use of both inductive and deductive processes to construct theories. It begins with certain observations of nature, on the basis of which scientists creatively and inductively suggest a hypothesis as an explanation. Working with such a hypothesis, experiments are conducted and logical tests are formulated which would result in certain observations, under the given conditions, if the suggested hypothesis is true. Through such a trial-and-error process, a theory which fits the observational data and has a predictive capability is worked out.

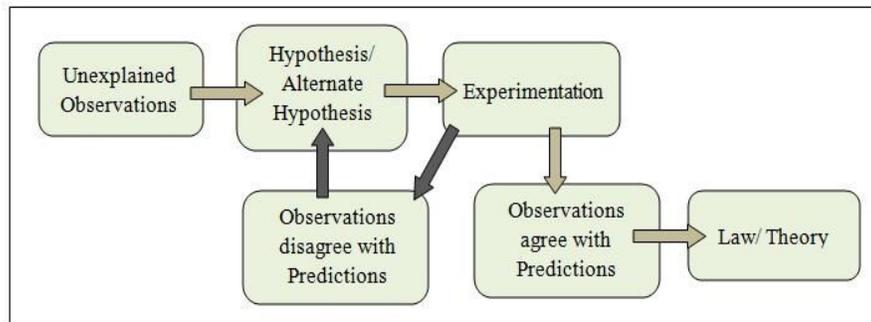


Figure 2: The Conventional Scientific Method

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2.2 Breakdown of Scientific Method in Astronomy

When the conventional scientific method is applied to astronomy, it is noticed that it does not aid one in constructing reliable theories mainly due to two reasons. Firstly, outer space observations usually consist of rare or one-time phenomena, which occur once in a few million years. Due to this, an inductive pattern is hard to find since the data sample is limited to just a few observations. Secondly, one cannot repeat the processes in a laboratory and conduct tests using the same conditions as outer space. In many cases, it is not even possible to detect or observe a particular phenomenon directly. For instance, the human race is not technologically advanced enough yet to explore distances billions of light years away, being a *Type-Zero* civilization at present harnessing only a portion of the energy available on our planet (Kaku 2008, 34-53). Since these two major steps of ‘experimentation’ and ‘observation’ that lend certainty to the scientific process cannot be carried out effectively, the inductive element of this method – when applied to astronomy – runs a high risk of being inaccurate.

One of the fundamental aspects of astronomy is that there are a number of processes that are unobservable. For example, a *Black Hole* is a celestial body whose gravitational force is so high that no electromagnetic signal can escape its pull (Wheeler 1967). Since these signals received from outer space objects are the empirical data on which an inductive model is built, scientists have no way of constructing knowledge on a strictly observational basis when dealing with phenomena like black holes, superstrings, quasars, and of the sort.

The only way such objects are detected is through some indirect evidence of their existence. These could be high powered X-ray generation from a given point in space, distortions in gravitational fields, or even a visible star orbiting an ‘unseen’ companion. But at the same time, it should be noted that there are any number of objects that could be responsible for X-ray generation and gravitational distortion (which may not necessarily be the objects under study). Also, the ‘unseen’ star could simply be a star that is too faint to be seen.

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One cannot be certain of such indirect evidence as proof for the existence of a particular phenomenon.

Experimentation under varying conditions is another important step in the scientific method, since it helps to derive a relation of what ‘causes’ lead to a particular ‘effect’. It becomes highly difficult to conduct laboratory tests for laws concerning celestial bodies as the conditions required for the processes are too extreme to be simulated. For example, one cannot recreate the fusion reactions taking place inside the Sun’s core to understand the mechanism of radiation in stars, or construct multi-dimensional parallel universes. Astronomy is not like other laboratory sciences where the experimentalist is able to vary and control the environment or the conditions under investigation. The ‘experiment’ is a process going on out in space, and the astronomer only collects data from the ‘results’ of that on-going experiment. Apart from this, celestial phenomena generally take millions of years to develop and occur. When dealing with such a huge time-span, it is not possible to take a number of observations from the different ‘experiments’, or processes going on in space, and then find a common pattern in the information received.

Therefore, it is necessary to provide an extension to the laboratory laws, or perhaps invoke new laws through non-empirical means to understand and describe such rarely observed and difficult to simulate phenomena occurring in outer space.

3.1 Deduction as a Possible Solution

Although it is a powerful and essential tool in science, inductive reasoning must be treated with skepticism since it is based on limited sample data, and its predictive capacity is restricted to the repetitive nature of the phenomenon which governs its construction. If one extends a given case to the general by means of induction, he assumes – in the very act itself – that induction is actually a workable and correct process. It is evident that without forming a vicious circle and begging the question, a generalization from a specific cannot

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be demonstrated by this process (Russell 1997). This is a major logical problem with justification in inductive reasoning. Induction speaks more of probability in its conclusions than deterministic certainty.

Astronomy is, like any other science, a law-governed nomological study (Kragh 2001, 157-69). Since empirical means can be relied upon only to a limited extent for cosmological occurrences, it becomes necessary to develop an entirely deductive theory of astronomical knowledge, which more or less removes the element of inadequate experiential ability.

Unlike induction, deductive reasoning is perfectly reliable if one has used the correct premises and logical structure. If the foundational statements on which deductive knowledge stands upon consists of self-evident or transcendental truths, the derived conclusions will also be axiomatic in nature. The tools of mathematical theorems and logic can thus aid us in compiling a consistent scientific theory for astronomy (Douglas 1945, 73-88).

History provides evidence to support this line of reasoning. Johannes Kepler, who solved the problem of planetary motion, initially believed (based on his observations) that the circle – being the perfect curve – was the only path a planet could follow. He later acknowledged that his mathematical results ‘forced’ him to conclude that the planets should be following an elliptical path with the Sun as one of the foci (Tarnas 1993).

3.2 Deductive Nature of Mathematics

Mathematical knowledge seems to have a kind of certainty that exceeds other forms of knowledge. Since the structure of mathematics is based entirely on a system of analytic *a priori* statements, it is noticed that all demonstrations in this field are deductive in nature. This rationalistic consequence of mathematics has immense implications on the theory of knowledge. For one, we realize that mathematical knowledge requires premises which are not based on sense datum. Any general proposition in this subject goes beyond the limits of knowledge

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obtained empirically, which is entirely limited to what is individual (Slater ed. 1988).

If the steps carried out in formulating a conclusion are mathematically correct, then the claims of the knowledge produced cannot be disproved. This knowledge is then 'static' in nature, and can be fully relied on as being true.

3.3 Mathematical Construction of Knowledge in Astronomy

The most powerful method of advancement in astronomy is to employ the resources of pure mathematics in attempts to generalize the mathematical formalism that forms the existing basis of theoretical astronomy. These new features should then be interpreted in terms of physical entities (Dirac 1973). The application of such a method would lead to the construction of reliable knowledge in astronomy. If a Euclidian triangle is found by measurement not to have angles totaling 180° , we do not say that we have met with an instance which invalidates the summation law of polygon angles. We always preserve the validity of a mathematical truth by adopting some other explanation for the occurrence. This is our procedure in every case in which a mathematical truth seems to be confuted. Thus, finding the mathematical principles governing celestial phenomena will grant our knowledge-system immense certainty. Once proven, these laws remain as static knowledge and allow us to make assured advances in astronomy.

Without mathematical models and physical equations – which are used as unifying and generalizing structures for data – astronomical science would cease to function, since all we would be left with is a bewildering assemblage of apparently unrelated observations that we would try to make sense of using an apparently unjustified common sense.

Moreover, such mathematically derived theories suggest the existence of other hitherto unsuspected natural phenomena, thus endowing scientific inquiry with a 'predictive capability' (Young 1983, 939-50). For example, from the gravitational behavior of the universe, it is logically estimated that

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'*Dark Matter*' comprises about 25% of natural matter in the form of weakly interacting massive particles. *Dark Matter* is a hypothesized form of matter particle that does not reflect or emit electromagnetic radiation. These particles have not been detected in any form, and are only predicted to exist by extensions of our current knowledge about intergalactic gravitational effects. Such knowledge is created to explain structures and phenomena that are entirely outside the range of all direct human experiences. Through such rationalistic reasoning, it becomes possible to make assertions, not only about cases that we have been able to observe, but also about all actual or possible cases.

4.1 Extension of System for Knowledge Construction

If knowledge in astronomy is constructed through mathematics, an important implication follows in so much as we can not only formulate astronomical theories by working *within* the current mathematical framework, but can also extend our mathematical means to create additional tools for constructing theories *outside* the existing structure.

In constructing knowledge within the existing structure, a new theory is devised which is actually a mathematical extension of the previous theories. It involves tinkering with equations and working out new expressions which might help in explaining a certain phenomenon or process. For instance, accurate observations of Mercury's orbit revealed small differences between its predicted motion as per Newton's theory of gravity, and its actual motion. Einstein's general theory of relativity, which has its mathematical foundations in Newton's theory, predicted a slightly different motion, which was found to be matching with the actual path.

When constructing knowledge outside the existing system, the scope of the subject itself needs to be extended by formulation of new techniques that increase the application of mathematics in astronomy (Hawking 1998). When dealing with certain problems in physics, Isaac Newton realized that the mathematical knowledge existent at that time was inadequate for him to provide

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possible solutions. Thus, he developed ‘*Fluxions*’ for the application of his mathematical equations to *differentials* in nature. This laid foundations for modern-day *Calculus*. Such inventions of mathematical devices then help to extend knowledge in the astrophysical arena.

4.2 Validation of Rationally Constructed Knowledge

Since mathematically constructed knowledge is completely reliable when used with correct premises and suitable steps, it is possible that scientists would place undue trust in claims made on a deductive basis. Mathematical claims need to be carefully examined in order to check that the assumptions, or premises, are sound and the reasoning is valid. To validate the theories, it should be ensured that *specifically* predicted observed data fits well within the explanations of the theoretical framework. Thus, deductions tested under new observational programmes support the theories or cast doubt upon their validity. The observations that do not fit into the mathematical framework should be treated as indications that another theory or explanation is required for the given problem.

As an example in astrophysics, the *String Theory* enjoys consistency only in a *10-dimensional* universe. This hypothesis is a purely theoretical construct with no experimental evidence for support, and its inability to be tested or falsified by near-term experiments or astronomical observations prevents it to be accepted as ‘knowledge’ within the scientific community as of yet (Naeye, 2003, 39-44).

Testing the concepts empirically is a critical step in the construction of scientific knowledge, often having a profound influence on what is considered knowledge and what is disregarded as invalid supposition (Zycinski 1984, 137-48). By this ‘empirical testing’, I do not mean that we can entirely trust our observations (since that is the reason we resort to a *mathematico-deductive* model for constructing knowledge in astronomy). Rather, after the ratiocination of a conjecture in a model, we are better acquainted with the distortions that the

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sense datum might have undergone before being received by us, and we can take these into account while testing our concepts and theories empirically; we do not take the observations at face value to construct a theory.

The evidence of the senses should agree with the truths of reason but it is not required for the acquisition of these truths. Repeated observations and experiments function solely as ‘tests’ of conjectures or, as Popper would have put it, attempted refutations. Irreconcilable failures of theoretical predictions to agree with empirical data leads to abandoning of the theory in search of another (Young 1983, 939-50). Faults, if any, *within* the existing *mathematico-deductive* structure are then investigated. If no such discrepancies are found, then new mathematical systems are explored, that is, the system is extended to create knowledge *outside* the existing structure. The full appreciation of this explanation makes the relation between theories and observations clear.

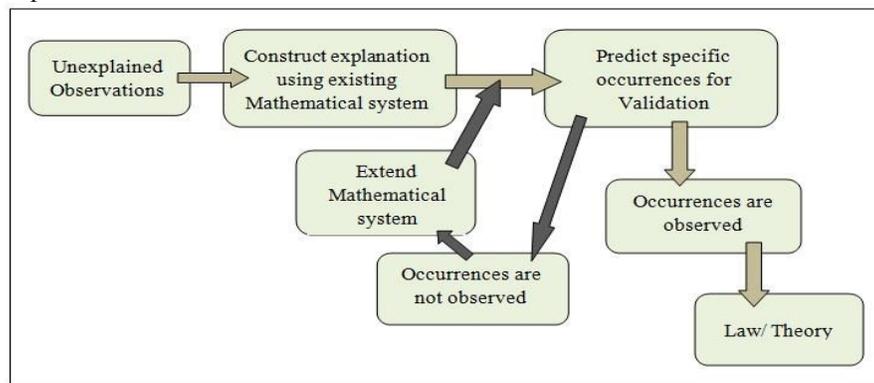


Figure 3: The modified Scientific Method for Astronomy

4.3 Epistemological Testing of Knowledge

In Platonic terms, ‘Knowledge’ is defined as a proposition that is a *justified true belief*. Since induction presupposes an inductive statement and relies on falsifiable empirical sample data (in astronomy) for the purpose of justification, it can be safely said that induction provides us with a true belief, rather than

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certain 'knowledge'. This true belief lacks firm grounds, and can therefore be disproved.

On the other hand, the *justification* for rationally constructed knowledge is provided through *specific* empirical observations predicted beforehand. The element of *truth* is evident since mathematical conjectures are *analytic a priori* statements, and hence, the knowledge thereby constructed is true by definition. It is, therefore, in the nature of mathematical knowledge that a theorem, formed purely on the basis of deductive reasoning using axiomatic truths, cannot be argued with. One realizes that knowledge can be better constructed using deductive means as it can be defined in much more precise terms than that which is created empirically and inductively in astronomy.

5.1 Conclusion

The relation between mathematics and astronomy is the utility of the former in the pursuit of the latter. Perhaps the reason we cannot predict anything happening near the singularity region of a black hole is because our present mathematical laws and equations cease to be applicable under the conditions prevalent in that area. This leaves us with no tool to construct our knowledge with.

Thus, it is abundantly clear that our very limited direct experience with the real physical world in no way qualifies us to pontificate upon nature in its entirety. We can comprehend more about outer space in an intuitive way using the theories that we conceive in the form of abstract mathematical structures, than those that purely rely on available empirical information.

5.2 The Pursuit of Knowledge -An After Note:

It is worth noting at this point that modern commentaries on the erroneous descriptions of Ptolemy's model of the universe reveal an unjustified contempt for a theory that was remarkably successful in accounting for the then known

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phenomena of the celestial sphere (Roy and Clarke 2003). A theory - or knowledge in general - is something that is a creation of our minds; it has no independent physical existence of its own, but it helps us explain reality. Pragmatically speaking, Ptolemy's theory was correct and dependable. But when constructing theories in the sciences, we are searching for knowledge which is *correspondingly true*, that is, it corresponds to the *actual way the things are* in reality. That is the foremost reason why we must not be satisfied by merely constructing a *pragmatically true* theory which helps us make accurate predictions, or explain observed natural phenomena; we must endeavor to find the actual mechanism and phenomenon as it *is* happening, even if we cannot observe it.

Such a leap enables us to investigate that part of the universe that is beyond the range of our sensory perception. For such epistemological pursuits, we must make use of abstract mathematical formulations, for the 'world' which they are exploring is also, perhaps, as abstract as those numbers and equations.

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Unhappy Humans and Happy Pigs

Joshua Seigal

John Stuart Mill is famous for having expanded Bentham's utilitarianism to incorporate 'higher' and 'lower' pleasures. Nowhere is this better exemplified than in the dictum "better to be a human being dissatisfied than a pig satisfied."¹ In this paper I argue that this dictum is inconsistent with utilitarianism's own conception of the 'good'. My argument shall proceed through several stages: In section one I present and defend a form of 'hedonic calculus', the use of which will be essential if we are to quantify happiness (as utilitarianism aims to do.) The calculus I suggest will be based on considerations as to how we might compare a human being's happiness with that of a lower animal. I present some arguments as to why I think a utilitarian should accept this calculus. In section two I examine Mill's conception of the 'good', and analyze his famous quotation in the light of this. I argue that, by this very criterion, it is *not* necessarily better to be a human being dissatisfied than a pig satisfied. In section three I examine how best to extricate ourselves from this situation, and I put forward the suggestion that if we want to maintain the belief that it *is* better to be a human being dissatisfied than a pig satisfied (a belief which, intuitively, we probably *do* wish to maintain), it *cannot* be based on utilitarian considerations.

Mill's quotation refers to 'satisfaction'; henceforth I shall follow Bernard Williams² in using 'happiness' and 'satisfaction' interchangeably, so the question of whether or not it is better to be a human being dissatisfied than a pig satisfied is equivalent to the question of whether or not it is better to be an unhappy human than it is to be a happy pig. I therefore argue that by the criteria of utilitarianism it is not better to be an unhappy human than it is to be a happy pig. It may be argued that pigs, unlike humans, are not really *capable* of happiness. However, since the quotation sees fit to use 'satisfaction' as

¹ JS Mill, 'Utilitarianism', JM Dent and Sons (1972), p. 9.

² Smart and Williams, 'Utilitarianism: For and Against', Cambridge University Press (1973).

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applicable to both, and since I am using the terms ‘satisfied’ and ‘happy’ interchangeably, this need not be problematic.

Furthermore, it may be claimed³ that the reason it is better to be a human being dissatisfied than a pig satisfied is that the human has the capacity to contribute to a greater net level of happiness in *society*. In this essay I propose to isolate an *individual* human and an *individual* pig, and compare only the respective happiness of each, independently of the greater good to which they may or may not have the capacity to contribute.

I

Implicit in Mill’s quotation is the assumption that human and animal happiness is comparable. We therefore need to examine *how* a comparison could be carried out. I suggest that for a comparison, we need a means of quantification.

Mill was concerned to show the ‘fundamental humanity’ of utilitarianism, and claimed, therefore, that “a beast’s pleasures do not satisfy a human being’s conception of happiness”⁴. As Smart notes⁵, the reluctance of a person to sacrifice his humanity for animal happiness indicates that human happiness somehow penetrates *deeper*, is somehow more *profound*, than that of a pig. Any calculus that we use to quantify happiness must therefore take into account the fact that human happiness is, *prima facie*, deeper⁶.

I assume that animals have sensory experiences like we do, in the sense that, as with us, there is ‘something it is like’ to be them⁷. The issue of what *precisely* differentiates us from other animals is not within the scope of this paper, but in terms of comparing our respective happiness it seems reasonable to

³ For example by JJC Smart (Smart and Williams).

⁴ Mill, p. 7.

⁵ Smart and Williams, p. 21.

⁶ William Shaw says of animals that “their lives lack the complexity and psychological richness of ours.” (William H Shaw, ‘Contemporary Ethics: Taking Account of Utilitarianism’, Blackwell (1999), p. 41).

⁷ Thomas Nagel, ‘What is it Like to be a Bat?’.

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suppose that the primary differentiating factor is our capacity for *reflection*, for having a ‘pro-attitude’ towards our own happiness⁸.

Consider a maximally happy human (A) and a maximally happy animal (B): for B, we may suppose that the satisfaction of desires constitutes the highest level of happiness. The capacity for *reflection* in A, however, necessitates that we add another level when examining A’s capacity for happiness. So, a maximally happy person will not only have all his desires satisfied, he will also be able to somehow *reflect* on his situation, and *know* that all his desires are satisfied. Animals, it seems, lack this capacity for self-reflection⁹.

How, then, are we to incorporate this consideration into a calculus? Taking the person’s capacity for self-reflection into account, we may suppose a two-tier view, whereby a person’s pro-attitude is included in the calculation of his overall happiness: a person is *fully* happy if he is happy, and he *knows/recognizes* this to be the case (and is happy about it). Given that an animal is unable to reflect upon its own happiness, a fully happy animal is not able to fulfill this second condition; it is not able to know/recognize that it is happy. A fully happy person is therefore happy on *two* levels, a fully happy animal merely on *one*. Thus, if we were to award points for happiness at each of the levels, a fully happy person would be worth *two* points, a fully happy animal *one*¹⁰.

It follows of course that a *fully* happy person is happier than a fully happy animal: level-one happiness for each consists in the mere satisfaction of desires, but a person’s *overall* capacity for happiness is greater, by dint of the person’s being able to *reflect* on his level-one happiness. Thus, if happiness is

⁸ See, for example, Andrew Moore, ‘*Hedonism*’ (2004), Stanford Encyclopedia of Philosophy.

⁹ See Colin Allen, ‘*Animal Consciousness*’, Stanford Encyclopaedia of Philosophy.

¹⁰ Empiricists, such as John Locke, seem to endorse such a two-tier view. Locke claims that human ideas are derived from sensation or reflection, and that the “understanding seems...not to have the least glimmering of any ideas which it doth not receive from one of these two.”

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the criterion of the good, it is better to be a satisfied person than a satisfied pig (recall that I am using ‘happiness’ and ‘satisfaction’ interchangeably).

This, however, is *not* Mill’s claim. He claims that it is better to be a *dissatisfied* (unhappy) person than it is to be a satisfied pig. How, then, do a dissatisfied person and a satisfied pig compare according to our calculus? It may be recalled that a fully satisfied animal is worth one point (being incapable of self-reflection). How much is a dissatisfied person worth? It is obvious that a dissatisfied person is less happy than a fully happy person, and, given that a fully happy person scores two points (one for happiness on each of the two levels) a dissatisfied (unhappy) person must score *less* than two points.

Perhaps a dissatisfied person could score less than two but *higher* than one (and thus still be less happy than a fully happy person and more happy than a fully happy pig). It has been suggested that a person’s happiness can be viewed on two levels, and on each level a person can either be happy or unhappy. Thus, a fully happy person is happy on both of the two levels. A less than happy person is therefore only happy on one of the two levels, and scores at most one point, whilst a fully *unhappy* person is happy on *neither* level, and scores zero.

Some interesting things follow: a totally depressed (i.e. maximally unhappy) person is less happy than a happy pig, so it would, according to the calculus, be better to be a happy pig than a depressed person¹¹. However, we need not equate the *dissatisfied* person with the *maximally unhappy* person. Since the unhappy person is lacking happiness on either of the two levels (but need not do so on both), he is worth one point. We have seen that a happy pig is also worth one point, so a happy pig is equal in happiness to an unhappy person.

¹¹ Mill considers higher pleasures but he seems to neglect higher *pains*. If it is better to be a human being dissatisfied than a pig satisfied by dint of the human’s capacity for higher pleasures, then why not say that it could equally be *worse* by dint of our capacity for higher pains? Presumably we are capable of experiencing more profound varieties of pain than are animals. This, and similar points, are interestingly highlighted in Michael Leahy’s repudiation of the animal rights movement.

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However, why should utilitarians accept this calculus? One of the reasons, I believe, is that utilitarianism requires that happiness be quantifiable. The ‘points’ system I have suggested seems at best ad hoc, but if happiness *is* to be quantifiable there needs to be some kind of *unit* of quantification. As Williams says¹², happiness must be ‘calculable’. Another reason why the calculus I have outlined should be accepted by a utilitarian is that it is based on reasonable considerations as to the differences between humans and animals, a comparison that is rendered necessary by Mill’s quotation. If it *is* the capacity for reflection that differentiates humans from animals, then human happiness would seem to require the extra level that I have suggested. Thus, given that happiness must be quantifiable, we can assign values to the respective happiness of humans and animals that take into account this basic difference between them¹³.

II

Implicit in the claim that one thing is better than another is a conception as to what it is that makes something ‘good’. As Geoffrey Scarre has highlighted, for utilitarianism to be tenable, there needs to be an “organising feature of experience which functions as the common denominator of good.”¹⁴ For utilitarianism, then, ‘happiness’ serves this purpose. Happiness, Mill claims, is the only thing that is intrinsically good, all other things being good inasmuch as they are a means to, or part of, this end.¹⁵

Now, the calculus in the above section shows that it is *not the case* that an unhappy person contains more happiness than a happy pig. Of course, we haven’t yet confronted Mill’s claim that the *type* of happiness is important, but,

¹² Bernard Williams, ‘Morality’, Cambridge (1972), p. 87.

¹³ In assigning these values, we may be, as Smart says, “assuming what is perhaps a fiction” (p. 60).

¹⁴ Geoffrey Scarre, ‘Utilitarianism’, Routledge (1996), p. 139.

¹⁵ Mill, p. 6.

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when we consider happiness purely quantitatively, as I believe utilitarianism must, we can see that, taking into account differences between human and animal natures, an unhappy person does not score more ‘points’ than a happy pig. I have, furthermore, attempted to argue that such a ‘points’ system is really the only viable way of making utilitarianism work: Mill’s quotation requires that happiness be comparable, comparison requires that happiness be calculable, and calculability necessitates units of quantification.

We are now in a position to observe how the claim that it is ‘better’ to be a human being dissatisfied than a pig satisfied functions, and how it is incompatible with utilitarianism’s conception of the good. In section one we saw that an unhappy person is not happier than a happy pig. We can also now observe the fact that the phrase ‘better than’ asserts of one thing that it contains more ‘good’ than something else. So, if utilitarianism’s conception of the good is ‘happiness’, then to say of one thing A that it is better than another thing B is to say that A contains more happiness than B. So, when Mill claims that “it is better to be a human being dissatisfied than a pig satisfied”, his own criterion of the good renders this equivalent to saying “an unhappy human contains more happiness than a happy pig.” But this is exactly what the calculus in section one has shown to be false.

Thus, if the criterion of the ‘good’ is happiness, it is not better to be a human being dissatisfied than a pig satisfied.

III

From what has been said thus far, we can observe a certain inconsistency in the following two propositions:

- 1) Utilitarianism is correct
- 2) It is better to be a human being dissatisfied than a pig satisfied.

Where, then, do we go from here? I have interpreted ‘utilitarianism is correct’ as containing ‘happiness is the criterion of the good’ as a necessary condition.

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Perhaps a way out is to challenge this and argue that utilitarianism does not *have* to proceed using ‘happiness’ as the criterion of the good.

As Smart has highlighted¹⁶, ‘Ideal’ utilitarianism holds that other things, besides happiness, have intrinsic value. Smart calls Mill a ‘quasi-Ideal utilitarian’. If this is the case then it may be that we can accommodate the view that it is better to be a human being dissatisfied than a pig satisfied on grounds *other* than happiness into a utilitarian framework. This, however, seems an obtuse interpretation of Mill, who explicitly states that whilst “the ingredients of happiness are very various”¹⁷ it is happiness *itself* that is the only thing possessing intrinsic value.

It could further be argued that Mill’s conception of ‘higher’ and ‘lower’ pleasures means that human happiness is intrinsically better than that of a pig, since it is of an altogether different, *higher* type. If this is the case, then we may be able to maintain ‘happiness is the criterion of the good’ as a necessary condition of utilitarianism, whilst adding the qualification that this should be construed as *higher* happiness.

As H.B Acton notes¹⁸ Mill was perhaps influenced by Whewell’s observation that if only quantity (and not quality) is taken into account, the Greatest Happiness Principle becomes the ‘Greatest Animal Happiness Principle’. However, given that utilitarianism is based on a conception of the good as comparable, calculable and additive, it seems as though happiness, as the criterion of the good, can differ only in *degree*, and not in *kind*, for how can two *kinds* of things be comparable? John Grote, in a very early commentary on utilitarianism, claimed that “a consistent utilitarian can scarcely hold the difference of *quality* in pleasures in *any* sense”¹⁹. Things admit of comparison only in the degree to which they fulfill a certain end, so for human beings’ and pigs’ happiness to be comparable they must *not* differ in kind, otherwise the

¹⁶ Smart and Williams, p. 12-27.

¹⁷ Mill, p. 33.

¹⁸ Mill, p. xiii.

¹⁹ Cited by Acton in Mill, p. xiii.

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very notion of comparison wouldn't make sense. In bringing in 'higher' happiness as a different *kind* of happiness altogether, Mill is destroying the very commensurability that is required to affect a comparison. 'Higher' pleasures thus seem to possess a non-utilitarian value, and therefore seem inappropriate in a utilitarian system.

Given that utilitarianism *does* indeed seem to claim happiness as the sole criterion of the good, and given that the quantification and comparison of happiness is more easily made sense of when we consider *degree* rather than *kind*, it does indeed seem as though we need to do away with either 1 or 2.

Which one should it be? In presenting the calculus in section one I attempted to adumbrate how a utilitarian should deal with the problem of whether or not it is better to be a happy pig or an unhappy human. We could therefore see that the way utilitarianism must treat the problem cannot yield a verification of Mill's dictum. However, the calculus seemed somehow inappropriate. Since I presented some reasons as to why I think such a calculus is indispensable for a utilitarian (inasmuch as he wishes to compare human and animal happiness), any lingering feelings of inappropriateness may be due to the inherent implausibility of utilitarianism. As Williams says, "utilitarianism cannot hope to make sense, at any serious level...of human desire and action at all, and hence only very poor sense of what was supposed to be its own specialty, happiness."²⁰ Given this consideration, I suggest that the most likely candidate for abandonment is 1.

At any rate, if we hold that 1 and 2 are inconsistent (as I have claimed that we should), *and* we believe that it is somehow better to be a human being dissatisfied than a pig satisfied, we should hold this belief *independently* of utilitarian considerations. Unfortunately however, it is not within the scope of this paper to inquire further into what our considerations should in fact be.

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²⁰ Smart and Williams, p. 82.

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Atheism and the Assumptions of Science and Religion

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*“There's this thing called being so open-minded your brains drop out.”*¹ I have to credit Richard Dawkins for having some sense of humor because I find the remark to be rather funny. But I think Dawkins should also know that there's this thing called being so close-minded that your brain drops dead. Dawkins is among the many atheists out there who advocates scientific “fundamentalism,” arguing for people to embrace science and shed their religious beliefs because they are not only “dangerous” but also irrational.² According to him, religious people are too open-minded because they believe in something that isn't provable. What Dawkins and many others fail to realize is that scientific discoveries that have been “proven” to be “true” are all founded on at least six assumptions that are not rationally supported (compared to the zero assumptions that theists who don't claim to know the nature of God make); therefore, science largely depends on faith and should not be considered as more-- and perhaps should be considered as less--credible than religion.

Since science starts out with at least three assumptions that aren't provable, it may be more rational to take science less seriously than religion, which starts out with zero.³ Before scientists perform any kind of experiments, they start out with these basic assumptions: (1) that the experimental procedures will be performed adequately without any intentional or unintentional mistakes that will impact the results (2) that the experimenters won't be considerably biased by their preconceptions of what will happen (3) that the random sample is representative of the entire population and that any random sampling that isn't won't significantly impact the results (4) that nature has regularity; most if not

¹ Quotation taken from Richard Dawkins' official website:
<<http://www.simonyi.ox.ac.uk/dawkins/WorldOfDawkins-archive/Catalano/quotes.shtml>>.

² From *The God Delusion* by Dawkins.

³ The term “scientists” only refers to those scientists who believe that science is about finding the truth concerning the way the world works and not those who believe that science is merely useful (but not necessarily true.) Also, “religion” in this case is defined as the belief in any kind of God or gods, excluding all the stories associated with it.

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all things in nature must have at least a natural cause⁴ (5) that there is such a thing called Objective Reality (6) and that science at least partly corresponds to that Objective Reality. Therefore, when we think about it more deeply, the foundation of science is actually faith, a term usually used to describe religion, not science. In comparison, theists who claim that God exists and don't claim to know anything else about God base their belief on one currently true fact: that not everything can be explained by natural means.⁵ Because scientists make at least six assumptions and theists make none, it is actually (and ironically) more rational to believe in God than in science.

The first counterargument to this point is that the foundation of science is *not* faith because it is based on *reasonable* assumptions. Many people assume that faith and reason must be mutually exclusive. But the basis of this counterargument depends on how "faith" is defined. If one defines faith as "belief in spite of, even perhaps because of, the lack of evidence" like how Richard Dawkins defines it, then yes, science is not based on faith.⁶ If one defines faith as "belief in something without certainty," then science *is* based on faith. But no matter how one defines faith, we can all agree that at the heart of science is *uncertainty*. We are uncertain that the assumptions that we make are right. We are also uncertain that the results that we obtain are right. Even

⁴ The term "nature" refers to anything that is not supernatural.

⁵ Attempting to define God is difficult because people's notion of God vastly differs from one another. God in this paper is defined as a being that we know nothing about because he hasn't been explained by natural means, so we at least know that God is not a human, or an animal, or anything that we *do* know about. The purpose here is not to justify any assumptions that people tend to make about the nature of God (i.e. God is good, God is immaterial, God is material, God is supernatural, God is immanent, etc). The reason is that no one truly knows what God is like, and if it is found that God is actually immanent as opposed to supernatural like he is traditionally depicted, that does not mean he suddenly ceases to exist. We as fallible people would just need to adjust our notion of what God is like, but God would still be there. Also, the term "theist" merely refers to a person who believes in God and not someone who also has an opinion concerning whether God actually influences our lives.

⁶ Quotation taken from Richard Dawkins' official website.

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scientists (or at least reasonable scientists) admit that their discipline, science, is subjected to error.

Granted, science is based on uncertainty, but according to the proponents of the second counterargument, science is also self-correcting and self-validating. We replicate an experiment to gain certainty that the results we have obtained are correct. If we replicate an experiment many times and discover that our results are not consistent with the original finding, then we can be fairly confident that the original finding is wrong. If we replicate the experiment many times and discover that the results *are* consistent with the original finding, this means that we can be fairly confident that the original finding is validated or correct. The problem with this counterargument is that even though science may be self-correcting, the only way to correct the mistakes that we make now is by doing more experiments, meaning the same assumptions must be made each time the additional experiments are performed. Also, the self-validating counterargument is flawed, and the following example can expose this flaw. Let us say an experiment was conducted 1,000 times, and we get the same result 990 times. The counterargument says that we can then rationally conclude (although we can never know with absolute certainty) that the result is right. This is similar to saying: if we toss a coin 1,000 times, and we get heads 990 times, we can rationally conclude that there is more than 50% chance of getting heads. *But this is not true.* According to statistics, if we toss a coin for an infinite number of times, we'd find that there is actually only 50% chance of getting heads. What matters is the *long run*. Therefore, we have to toss a coin or conduct an experiment infinite number of times in order to rationally conclude that we've obtained the right result. This is an impossible task. Therefore, it is impossible for us to accurately determine whether the results that we've obtained are right no matter how many times we actually replicate the experiment.

This rebuttal to the second counterargument is not foolproof. It should be pointed out that statisticians are making an assumption when they claim that there is only 50% chance of getting heads. The claim has never been proven.

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We have never tossed a coin for an infinite number of times to demonstrate the validity of the claim, so admittedly it is only an assumption. However, even though they are making an assumption in this case, they are only making one reasonable assumption compared to the six assumptions that scientists make before doing any sort of experiment. Thus, the point that science makes more assumptions and perhaps should be considered less valid still stands.

The third counterargument addresses the issue that maybe scientists don't make as many assumptions as it is claimed here. We don't assume that the experimenters will perform the experiments flawlessly nor do we expect them to have no biases. We also don't assume that the random sample will always be representative of the population, and we realize that a random sample that isn't can change the conclusions that we draw from the experiment. Science allows for mistakes. But the only way that we can rectify those mistakes or validate the results that we've obtained is by doing more experiments. This point has already been addressed by counterargument two, specifically with the heads and tails example. Thus, our mistakes will never be completely rectified unless we do an experiment infinite number of times. And yet, people still believe in science. This suggests that those people still assume that the experimenters' mistakes and the occasional unrepresentative random sampling won't significantly affect the results, assumptions that are huge and unwarranted.

Finally, the last counterargument points out that the quality of the assumptions may be more important than the quantity. We intuitively know that there are certain assumptions that seem to be more warranted than others. For example, the assumption that the sun will rise tomorrow is more reasonable than the assumption that tooth fairies exist. Thus, the assumption that God exists may only be one assumption, but since it's a pretty big assumption, it may be more rational to believe in science, which makes a few "reasonable" ones. To examine this point a little closer, we should look into the assumptions that both scientists and theists make. A theist (again, one who doesn't claim to know the nature of God) makes no assumptions but bases his or her belief on the fact that

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not everything right now can be explained by natural means; this belief is so far true because not everything has been explained by natural means. Although many people like to put the burden of proof on theists by saying that it is the job of the theist to prove that there is God, the burden of proof is actually on science to show that the currently true fact that theists start out with is false. The only way to demonstrate this is to prove that everything in the natural world has a natural explanation, something that scientists so far have been unable to prove this. Instead, they only *assume* that everything can be explained by natural means, and this assumption is so far not true. Other assumptions such as the belief that there is Objective Reality and that science corresponds to that Objective Reality have not been shown to be true either. Moreover, the more reasonable assumptions that scientists make don't always hold true. We know that there are experimenters who make mistakes and who are biased by what they perceive will be the likely outcome of their experiment, and these mistakes and biases can influence the results. We also know that random samples that aren't representative of the overall population can negatively affect the outcome. Thus, even based on the quality of the assumptions, it may be more rational to believe in God than to believe in science at least for right now. Granted, it may not be rational to assume that the assumptions will hold in the future; perhaps, we really will find out that everything has at least a natural cause later on. But for right now at least, why not believe in God in addition to science?

Opponents of this rebuttal may contend that it is fallacious to assume that there is a supernatural explanation just because we have not been able to explain everything by natural means.⁷ It is possible that there are other explanations (presumably natural) – we just don't know them yet. Thus, we should make a more modest claim: that God *could* exist, but to say that he actually does is too strong of a position. I'll concede to this argument but would like to add that it is just as fallacious to take the law of gravity for granted. First, the law was founded on a set of assumptions that we know (1) to have

⁷ The fallacy is commonly known as the argument from ignorance.

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been false in the past⁸ (2) to currently not be true.⁹ In comparison, belief in God is based on a fact. Second, there may be other explanations besides gravity (either natural or supernatural) that account for why things fall – we just don't know them yet. Therefore, gravity *could* exist, but to say that it actually does is too strong of a position. Thus, those who doubt the existence of God should doubt the existence of gravity too (as well as all the other laws in science that most of us take for granted). The problem is: a lot of people doubt the former and not the latter.

There are those that may argue that theists are making unfair demands on atheists to scientifically prove or disprove the existence of God in a way that one wouldn't on the alleged theist. However, it is impossible for a theist (or anyone as a matter of fact) to directly prove the existence of something or someone. For instance, one can argue that I should believe that my family members exist because I can see them, but the counterargument is that sometimes, one sees things that aren't really there. This example shows that any attempt to prove one's existence will always be met with skepticism, and thus, any theist who is demanded by skeptics to soundly prove the existence of God is given an impossible task. It is actually up to scientists who are atheists to include the existence of God as a scientific inquiry and to use the deductive falsification model to question the existence of such a being. If they set the hypothesis to "not everything can be explained by natural means", and they successfully showed that everything could be explained naturally, then there would be no need to believe in God anymore. Of course, even if the hypothesis was falsified, it would not mean that God definitely does not exist; it would only mean that a rational basis for believing in God no longer exists. That would be a good enough reason to be in denial of God's existence – but only if it is clearly demonstrated that everything in the natural world can be explained by natural means.

⁸ Assumptions (1), (2), and (3) of science.

⁹ Assumptions (4), (5), and (6) of science.

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In addition, these opponents may argue that we are only limited beings and that we don't know everything right now; therefore, it is better and simpler to assume for now that we are not omniscient than to assume that God exists. This counterargument can be summarized succinctly here: the rationality of one's belief in science \leq the rationality of one's belief in God $<$ the rationality of the position that we don't know everything. Although the last position may be the most rational, one would be forced to be skeptical of everything, including things that most of us take for granted. Additionally, the point that belief in God is at least as rational as belief in science still stands because the rationality of one's belief in science is still \leq the rationality of one's belief in God. Therefore, those who don't believe in God should not believe in science because otherwise, that belief would make no sense.

The point here is not to prove the existence of God nor is it to deny the credibility of science. Thus, trying to invalidate belief in God without addressing the issue of science or trying to bolster the credibility of science without addressing the issue of God will not refute my claim that belief in science and belief in God are on equal standing. This is what allows the argument so flexible. If a counterargument is made against God, I can easily turn it around and use the same counterargument against science. Belief in God and belief in science would still be on equal standing – equally fallacious perhaps but still on equal standing. If one tries to argue that we should accept science, that's perfectly fine because I'm not trying to deny the credibility of science – I would just add that we should accept God as well. The only way to avoid this problem is to provide a counterargument against God that cannot be used against science. Doing so is very difficult (if not impossible) given the uncertainties of the world we live in and of science itself.

Despite the uncertainties in science, we still have this underlying instinct to trust science over God because science is within our immediate experience, and God is not. But this instinct is not necessarily right. Often, we have instincts that mislead us. For example, most of us instinctively believe that the more times we gamble the more chances we have of earning money.

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Statistics shows us that the more times we gamble, the more money we actually lose. Thus, just because we have the instinct to trust science over God does not make this instinct justified, and upon deeper and more rational evaluation, the instinct falls apart because of all the reasons indicated in the previous paragraphs.

Although science makes more unjustifiable assumptions than religion does, one may still argue that it is more rational to believe in science over religion because there is more evidence supporting the claims made in science than there is for religion. This point was raised by Antony Flew, who asserts that theists will believe in God even in the face of overwhelming evidence for his nonexistence. To illustrate his point, Flew describes a parable in which one person (the Believer) claims that there must be a gardener taking care of the cultivated garden while the other person (the Skeptic) denies the existence of such a gardener. They decide to wait for this gardener to show up, but he never does. They then build a fence around the garden, a fence that is capable of electrocuting and detecting even the presence of an invisible gardener, but still, there are no screams of pain from the invisible gardener that indicate that he is ever in the vicinity. Despite the lack of verification, the Believer still insists that an invisible gardener exists. Flew's point is that a theist is similar to the Believer because both the theist and the Believer will keep on believing without any regard to the number of evidence supporting belief or disbelief. He concludes by asking the theist, "What would have to occur or to have occurred to constitute for you a disproof of the love of, or of the existence of, God?"¹⁰

I would like to turn the question around and ask Flew, "What would have to occur or to have occurred to constitute for you a proof of the love of, or of the existence of, God?" Of course, the question would no longer apply to Flew, who has converted from atheism to deism, but the question would still apply to those who are still atheists. The problem is that most atheists demand incontrovertible evidence when it comes to the existence of God, but when it

¹⁰ Flew, Antony, and Alasdair MacIntyre, eds. *New Essays in Philosophical Theology*. New York: Macmillan, 1964.

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comes to science (or any discipline related to science), they accept it so blindly. Upon examination, however, belief in God is at least as rational as belief in science because a theist actually makes fewer assumptions than a scientist and because both beliefs are equally fallacious (both a theist and a scientist are guilty of committing the fallacy known as the argument from ignorance). Thus, those who are skeptical of God's existence must also be *equally skeptical* of the claims made in science. It is not rationally acceptable for a person to be really skeptical of the existence of God but only a little skeptical of the discoveries made in science.

It is time to recognize either the rationality of religion and science or the fallibility of both. The fact is that science is not as sound as most atheists would have people believe, and those promoting scientific "fundamentalism" are no different from religious fundamentalists indoctrinating others with their radical beliefs. As should be mentioned again, scientists make at least six assumptions (three of which aren't always true and the rest currently not true) while theists base their belief on only one currently true fact, a point that suggests that believing in God may be more rational than believing in science. Other arguments such as the one that states that the law of gravity (as well as other laws in science) and belief in God are both equally fallacious suggest that belief in God and belief in science are only equally credible. Therefore, upon deeper inspection, religion (excluding its support for the "God is good" argument and its stories) is at least as sound as science, if not more so.¹¹

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¹¹ I would like to thank Mark Peter for providing me with counterarguments and helping me revise this paper.

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