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Heidegger and Dewey: science in a post-metaphysical world

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HEIDEGGER AND DEWEY: SCIENCE IN A POST-METAPHYSICAL WORLD

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the
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In

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By

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ABSTRACT

The aim of this paper is to compare and contrast the philosophies of Martin Heidegger and John Dewey regarding metaphysics and science. Concerning metaphysics, there are two main areas of attention, the historical emergence of metaphysics in the philosophical tradition, and the abandonment of the metaphysical notions of substance and subjectivity. After examining these two areas of both thinkers' philosophies, we then turn to their philosophy of science, demonstrating how the metaphysical thought of both thinkers is inseparable from their metaphysical critiques. For Heidegger, modern science is merely a continuation of the metaphysics of the past, while for Dewey; science is the tool by which modern man can throw off the false metaphysical assumptions of the past.

After demonstrating the metaphysical and scientific thought of both thinkers, both are compared to one another, in an attempt to illuminate their similarities and differences, finally concluding that if reconciliation is possible between Heidegger and Dewey, it is in their environmental thought.

INTRODUCTION

The sage-like question has been posed to me, is metaphysics even relevant any longer? It is true that we, at least in academia, seem to occupy a post-metaphysical world. That no sane individual would argue evolution is a result of an otherworldly control structure, guiding and molding our world in such a way as to align its ends and purposes with some teleological cause seems pretty certain. However, one should not be so quick to dismiss the prevalent metaphysical beliefs in our society, particularly in the United States, in which those ignorantly guided by groundless otherworldly dictates (i.e. religious fundamentalist) play a significant role in policy making as well as setting social moiré's and the cultural zeitgeist. Make no mistake about it, metaphysics is alive and well in our society, being engaged everywhere from arguments for creationism and anti-homosexual propaganda to economic and political theory. In every case in which metaphysics is called upon, there is an underlying motivation to appeal to otherworldly, unsubstantiated, phenomena. Fairytales, used to only booster humanities ill gotten, preconceived notions of reality. Metaphysics is very much a relevant question, and those of us committed to its "overcoming" cannot accept metaphysics as irrelevant until its position is that of mere historical anomaly, to be learned from but never returned to in seriousness.

That being said, in recent years we have seen a movement toward science as the epistemological replacement for metaphysics. Yet, rarely do we see science critiqued, unless it is held up against the archaic metaphysics of the past. Metaphysics will not do as the opponent of science. Does that mean science is free from opposition? Martin Heidegger and John Dewey both took on the question of science through the negation of metaphysics.

Thus, metaphysics is relevant only if it is be defeated to make room for new avenues of knowledge. We must place metaphysics beside science to see which stands and which falls.

Indeed, while the scientist may not be engaged in metaphysical thought, metaphysical thought still threatens his disciple.

Yet, it is simply not enough to say metaphysics is defeated, we must show how it is defeated, and what will replace it. Martin Heidegger and John Dewey share several views concerning metaphysics. Both contend that classical metaphysics arose historically, with Descartes playing a pivotal role its evolution. Both place the classic subject-object distinction under the classification of metaphysics. In fact, it could be argued that it is the abandonment of this distinction as metaphysical that grounds the thought of both thinkers. Nonetheless, with such similar philosophical views, both thinkers represent polar opposites when the subject turns to science. Why is it that two philosophers, almost contemporaries, who share similar view's concerning the role and emergence of metaphysics, would have such divergent views with regards to science?

At first it may appear strange that one should want to compare critiques of metaphysics with science. After all, is not science contemporary man's response to metaphysics? Do we not now live in a post-metaphysical world in which nothing is accepted as permanently fixed, infinite, or unchanging? Science, it would seem, has moved well beyond the question of metaphysics. "If we apply to metaphysics the criteria of truth which have been accepted generally in modern science, we conclude, on good grounds, that tenets of metaphysics (e.g. reality of the external world, mental character of the universe, etc.) are neither true nor false, but meaningless."¹ The biologist in his lab has no concern with establishing a metaphysical concept, only with identifying what is empirically evident. The practice of science is beyond a metaphysical framework.

¹ Philipp Frank, "Metaphysical Interpretations of Science part. 1," *The British Journal for the Philosophy of Science* Vol. 1 No. 2, August 1950, 60.

When these philosophers turn to science, their views, influenced by their critique of metaphysics, diverge. Dewey is a champion of science, deriving his instrumentalism from Darwinian evolution and biology, as well as psychology, anthropology, sociology etc. Heidegger, on the other hand, does not share Dewey's glowing esteem for science, but rather includes science in his critique of metaphysics, arguing that science is, at its very essence, metaphysical and therefore must be "overcome" in the same breath as metaphysics.

The purpose of this thesis is to etch out why these philosophers, who appear to share so much, arrive at opposing understandings of science and its role in contemporary life. Therefore, while the similarities between the thinkers will play an important role, it is really their differences, those areas of their thought that force disagreement, which will require special attention.

The first chapter provides an outline of Heidegger's metaphysical thought, with particular emphasis on the historical nature of metaphysics, the ontological distinction between Beings and being, and its relation to the subject-object distinction, as well as Heidegger's view concerning science as metaphysics and its consequences, namely the objectification and enframing of the world through technology.

The second chapter engages the thought of Dewey and will follow the outline of the first, identifying Dewey's critique of metaphysics as historically influenced, Dewey's view on the subject-object distinction, and finally Dewey on science in a post metaphysical world.

The third chapter compares the similarities and differences between the two thinkers. By comparing the two, the quintessential differences between the two emerge and one can achieve a full understanding as to why Heidegger and Dewey differ in regards to science.

CHAPTER 1: HEIDEGGER, METAPHYSICS, AND SCIENCE

1.1 The Heideggerian Understanding of Metaphysics

To understand Heidegger's view of science, one must understand his critique of metaphysics. In fact, there is essentially no difference between Heidegger's deconstruction of metaphysics and his views on science, since he rejects science as metaphysical. Furthermore, a thorough investigation of Heidegger's metaphysics and its relation to science will provide a foundation for comparison to Dewey.

While there appears to be a shift in the understanding of metaphysics from the early to the late Heidegger, one thing remains unchanged; in Heidegger's view, metaphysics equals an end for philosophy and must be "overcome." However, the overcoming of metaphysics should not be understood as a complete dismissal or defeat of metaphysics. John Stambaugh writes that Heidegger's use of the word *Überwindung*, meaning defeat and abandonment, should not be confused with the intended sense of *Verwindung*, "When something is overcome in the sense of being *verwunden*, it is, so to speak, incorporated."² That is, Heidegger does not wish to ignore thousands of years of metaphysics, but rather wishes to reunderstand and interpret metaphysics within a proper ontological framework. "Thus, to overcome metaphysics would mean to incorporate metaphysics, perhaps with the hope, but not with the certainty, of elevating it to a new reality."³

This elevation of new metaphysical thought occurs through the deconstruction of metaphysics. "Heidegger sometimes says that metaphysics is the oblivion of being, sometimes

² Martin Heidegger, "The End of Philosophy" (New York, NY: Harper & Row Publishers, 1973) 84 Footnote 1 (Hereafter (EP))

³ *ibid*, 84 Footnote 1

that it is the oblivion of the difference between being and beings, and sometimes that it is the oblivion of the truth of being.”⁴ In all cases, metaphysics obliterates the investigation and understanding of being. Heidegger’s understanding of metaphysics stems, as does all of Heidegger’s thought, from his ontology.

For Heidegger, metaphysics, at least traditionally, has branched from a misunderstanding, or more accurately, a complete ignorance, of the ontological distinction, that is, the distinction between Being and beings. Mark Okrent writes, “Heidegger does believe that traditional metaphysical thinking assimilates being in the primary sense with a being and thus forgets the distinction between being and beings; this is part of what he calls the ‘onto-theological’ character of metaphysics.”⁵ An investigation into the “onto-theological character of metaphysics” will aid in developing a Heideggerian understanding of metaphysics.

Metaphysics is “onto” in that it emerges out of a particular misunderstanding of the “ontological difference.” The ontological difference is the distinction between being and beings. Beings are to be understood as separate entities and their characteristics. Heidegger terms this understanding of beings as “ontic.” For example, the difference between a keyboard and a coffee cup is an “ontic” difference. The two entities are distinguished according to their particular characteristics, i.e. the coffee cup is made out of porcelain and has no moving parts, while the keyboard is made of plastic, has keys and electronic components. Being, on the other hand, is focused on what it means to be, to exist. Being (ontological) underlies beings (ontic), for beings must first *be* before they can be classified as beings. The Ontological is the central focus for Heidegger.

⁴ Mark Okrent, “Heidegger’s Pragmatism: Understanding, Being, and the Critique of Metaphysics” (Ithaca, NY: Cornell university press, 1988), 225 (Hereafter (HP))

⁵ *ibid* 226

Metaphysics is “theological” in that “To think about beings as a whole is to ask about why everything that is, is. It is to ask the question, ‘why are there things rather than nothing?’ The metaphysical name for the answer to this question, the being that accounts for the coming to be of everything that is, including itself, is ‘God.’”⁶ Yet theological, in the Heideggerian sense does not literally mean God, but any exterior projection out of Dasein’s Being-in-the-world. That is, any attempt to place one’s self out of one’s world, thus breaking one’s ontological connection to the world.

Therefore, metaphysics is “onto-theological” in so far as it searches for an unchanging, permanent ground or a foundation for all entities. Okrent writes, “So metaphysics is ontology and theology, and this means that metaphysics is the thought that accounts for the beings in terms of their ground.” In other words, metaphysics attempts at establishing a permanent ground or foundation that is unchanging and essential. This is unacceptable for Heidegger, who bases the whole of his thought around the notion of an “ontological distinction.”

All philosophy, and a large part of western civilization, misunderstood this distinction. This misunderstanding has allowed for the emergence of metaphysics. Heideggerian metaphysics is not concerned with merely “top-down” metaphysics where by our world is dictated, limited, and controlled by supernatural entities, though this form of metaphysics certainly falls within Heidegger’s definition. But, more fundamentally, metaphysics is understood as a ground, a permanent and unchanging groundwork.

The general metaphysical name for the ground that grounds beings is ‘being’. So metaphysics is the science of being as the ground for beings...Because being is understood by metaphysics as the ground of beings, metaphysics always drives toward ultimate grounds, the ultimate principles that account for everything else.... the being of beings is thus thought of in advance as the grounding ground. Therefore all metaphysics is at bottom, and from the ground up, what grounds,

⁶ ibid 227

what gives account of the ground, what is called to account by the ground, and finally what call the ground to account.⁷

In Summary, Heidegger understands metaphysics as an attempt to establish a ground for beings while simultaneously missing the nature of being itself. As a result, metaphysics forms a control structure, where one can thus establish a ground, limit beings to that ground, objectify, manipulate, and fully grasp them. This definition will find clarity as we examine Heidegger's understanding of the tradition. And with this understanding in place, we can fully examine Heidegger's understanding of positive science as metaphysical.

1.2 Metaphysics and the Tradition

For Heidegger, ideas move history; however this movement has not been one of advancement, but rather of decline, particularly in regards to the question and understanding of the "nature" of being. This decline is a symptom of the disease of metaphysics. For one of the characteristics of Heidegger's understanding of the nature of metaphysics is its essential property of limitation. Thus, a tradition that has adopted metaphysics as its guide has set its own limits.

This tradition keeps [Dasein] from providing its own guidance, whether in inquiring or in choosing...when tradition thus becomes master, it does so in such a way that what it 'transmits' is made so inaccessible, proximally and for the most part, that it rather becomes concealed.... Tradition takes what has come down to us and delivers it over to self-evidence; it blocks our access to those primordial 'sources' from which the categories and concepts handed down to us have been in part quite genuinely drawn. Indeed it makes us forget that they have had such an origin, and makes us suppose that the necessity of going back to these sources is something which we need not even understand.⁸

The rise of metaphysics within the western philosophical tradition began almost at the same time that philosophy itself began, with the Greeks, "Greek ontology and its history...in their

⁷ ibid 227

⁸ Martin Heidegger, "Being and Time", ed. John Macquarie & Edward Robinson (San Francisco, CA: Harper Collins Publishers, 962) 42-43 (Hereafter (BT))

numerous filiations and distortions, determine the conceptual character of philosophy even today.”⁹

Heidegger points to Aristotle’s “essay on time” as “the first detailed interpretation of this phenomenon which has come down to us. Every subsequent account of time, including Bergson’s, has been essentially determined by it.”¹⁰ This essay set a metaphysical framework that subsequently dictates and controls the tradition’s philosophy of time, “When we analyze the Aristotelian conception, it will likewise become clear, as we go back, that the Kantian account of time operates within the structures which Aristotle has set forth; this means that Kant’s basic ontological orientation remains that of the Greeks, in spite of all the distinctions which arise in a new inquiry.”¹¹ Unfortunately, the section of *Being and Time* in which this interpretation was to take place (the quote appears in the second introduction) was never published. Mark Okrent argues that this section of *Being and Time* was never published because Heidegger recognized his own philosophy as turning metaphysical and therefore “abandoned that program and eventually came to ‘attack’ metaphysics itself.”¹²

One example of Heidegger’s attack on metaphysics through the tradition is his critique of Rene Descartes. While the tradition offers a myriad of examples to choose from, Descartes offers the best example for our purposes because: 1) Both Heidegger and Dewey¹³ view Cartesian metaphysics as representational of the tradition, both in how Descartes is confined by the metaphysical tradition prior to his philosophy, and how the tradition since is influenced, yet remains fundamentally unchanged, post-Descartes. 2) The critique of Descartes is a theme found

⁹ *ibid.*, 43

¹⁰ *ibid.*, 49

¹¹ *ibid.* 49

¹² (HP), 218

¹³ Discussed in chapter 2

in both the early and late Heidegger, though the nature of the critique differ from the early to the late Heidegger, Descartes remains the quintessential metaphysician.

In the essay, *Modern science, Metaphysics, and Mathematics*, Heidegger identifies modern philosophy as beginning with Descartes. Prior to Descartes, particularly in the middle ages, philosophy “if it stood independently at all-under the exclusive domination of theology, and gradually degenerated into a mere analysis of concepts and elucidation of traditional opinions and propositions.”¹⁴ Medieval Philosophy cannot be said to stand-alone because its grounds had previously been established through metaphysics. God, the Good, Logic and other such concepts permeated philosophy, providing grounds and limitations. One cannot think outside of metaphysics because it is precisely these concepts upon which philosophy was built. To a Medieval philosopher, to do philosophy without appealing to supernatural theories is like building a house on water, there is no foundation on which the house can stand. Thus, metaphysics limited medieval philosophy from both the inside, by limiting its grounds, and from the outside, by controlling its path of thought. When a medieval thinker dared to present a philosophy contrary to the established metaphysical order, as with William of Ockham or Galileo, that individual faced excommunication at best, torture, imprisonment, and execution at worst. “Then Descartes appeared and liberated philosophy from this disgraceful position.”¹⁵

With the *Cogito*, Descartes introduced radical doubt, and therefore could not accept the pre-established metaphysical framework. “He began by doubting everything, but this doubt finally did run into something that could no longer be doubted, for, inasmuch as the doubter

¹⁴ Martin Heidegger, “Modern Science, Metaphysics, Mathematics,” in *Basic Writings*, ed. David Farrell Krell (San Francisco, CA: Harper Collins Publishers, 1993), 297 (Hereafter (MMM))

¹⁵ *ibid.*, 297

doubts, he cannot doubt that he is present and must be present in order to doubt at all.”¹⁶ Thus emerged the Descartes famous, *Cogito ergo sum*, I think therefore I am.

Heidegger recognizes the *Cogito* as representing a paradigm shift in philosophy, a complete “regrounding” of philosophy, where as before, Platonic/Aristotelian/Thomistic otherworldliness was the foundation for philosophy, doubt now became the new grounds. “Philosophy itself, however, was thus brought to the insight that doubting must stand at the beginning of philosophy: reflection upon knowledge itself and its possibility.”¹⁷ How does doubt lead to epistemology? Doubt must have something to doubt, so the question of how and what we know becomes central. Heidegger writes, “A theory of knowledge had to be erected before a theory of the world.”¹⁸ For if the world is subject to doubt, our means of doubt, namely knowledge, must be firmly grounded. Thus, according to Heidegger, epistemology became the distinguishing characteristic of modern philosophy, trying to provide, or discover, a ground for thought.

Does this mean Descartes freed philosophy from metaphysics? Heidegger’s answer is no, metaphysics still saturates Descartes and modern philosophy. While Descartes may have succeeded in doubting the traditions understanding of metaphysics, he still misunderstands the nature of being and thus still falls within the Heideggerian definition of metaphysics.

In *Being and Time*, Heidegger specifically attacks Cartesian ontology as producing a “bare subject without a world.” Heidegger despised any notion of subjectivity throughout his philosophical career. The Cartesian *Cogito* proposes to produce an unshakable ground for thought, namely, the subject. Unshakeable in the since that *Cogito Ergo Sum* appears to

¹⁶ *ibid.*, 297

¹⁷ *ibid.*, 297

¹⁸ *ibid.*, 297

demonstrate that the only undeniable ground of thought is one's existence. Descartes, as with the rest of the tradition, understood existence as contingent upon a substance.

Descartes understood substance as a free-standing entity. "By substance we can understand nothing else than an entity which *is* in such a way that it needs no other entity in order to *be*."¹⁹ Notice Heidegger's emphasis on *is*, because it is the distinction between *is* and *being* that constitutes Heidegger's critique of Descartes. Descartes sees substance as a condition for existence, that is, "After Descartes a cognition is grounded if and only if what is cognized is adequate to serve as a principle of ground for the rest of my cognition, and this is the case only if I can be certain of that initial cognition, can know its truth in such a way that doubt concerning it is inconceivable...only the subjectivity of the subject, the self-consciousness of the subject itself, can be known in this way, and all other certainty is mediated by the self-certainty of self-conscious subjectivity. So, in a crucial sense, being is identified with subjectivity."²⁰ To be is to be a something, fixed and definitive, against other things which one is not.

The turn to subjectivity stands as a distinguishing mark of the modern era; where prior to Descartes, man identified himself as "*zoion logon echon*, an *animal rationale*, a child of God, etc., into a subject."²¹ Subject is derived from the Greek *hupokeimenon* meaning what lie's before and beneath, thus drawing everything unto itself by serving as the prior and stable foundation for all else. According to Kockelmans reading of Heidegger, the shift from *animal rationale* to a subject signifies a shift in the essence of man himself. "As Heidegger sees it, the decisive factor in the constitution of the modern era is not so much the fact that man has freed himself from his previous obligations and, thus, freed himself onto himself, but rather the fact

¹⁹ (BT), 125

²⁰ (HP), 229

²¹ Joseph J. Kockelmans "Heidegger and Science" (Lanham, MD: University of America press, 1985),178 (Hereafter (HS))

that the essence of man himself has changed.”²² Thus, Dasein’s essence changed from a rational animal to a subject that serves as a foundation for all knowledge; man became the mark of all things because as a necessary subject, man stands before and beneath reality. Thus, Descartes initiated a paradigm shift in the tradition with the *Cogito*, namely moving man out of the world and making him the grounds for the world. The subject is like atlas, holding the world upon his shoulders but forever separated from it.

The motif of Cartesian separation and objectification continues through Heidegger’s reading of Descartes and mathematics. Heidegger argues that Descartes’ reliance on mathematics and desire to objectify nature creates an egocentric philosophy in which the autonomous subject is the “objectifier” and nature is that to be objectified and grasped. The Cartesian subject can fully grasp, objectify, manipulate, and control the exterior world; thus “the kind of being which belongs to sensuous perception is obliterated, and so is any possibility that the entities encountered in such perception should be grasped in their Being.”²³

Heideggerian phenomenology cannot accept such a philosophy because it misunderstands the nature of being. Heidegger argues that one cannot posit a subject separate from the world, but rather Dasein is in the world, not as water in a glass, but rather Dasein is interconnected in an intimate relationship with the world in its very being, that to remove Dasein from the world is to remove Dasein’s being. The world does not stand against Dasein; rather the world provides Dasein its very being. The term Dasein reflects this, for it literally translates as There-being, or one there in a world amongst everything else.

²² *ibid.*, 178

²³ (BT), 130

1.3 Modern Science and Technology as Metaphysical

1.3.1 Objectivity

Objectivity, or rather, the objectifying nature of metaphysics, plays a pivotal role in Heidegger's metaphysical critique of modern science. One of the features of metaphysics, according to Heidegger, is objectification. While it may appear contradictory for Heidegger to place both subjectivity and objectivity under metaphysics, for it would appear that at the very minimum, if the subject is not to serve as our grounds, then surely the objectivity of things can be our guide. It would appear that without a subject, objects in the world are all that are left. However, Heidegger demonstrates that the distinction between subject and object is itself a metaphysical distinction.

According to Heidegger, the word object, at least since the fifteenth century, means opposition, a standing against or what is opposite the subject. The objective becomes that which is not the subject; it is the world separate and apart from the subject. Heidegger provides a "sketch" of how this understanding has manifested itself in the tradition.

For Luther, object means:

The opposed "status":

The Jewish status and the Christian status:

"To adopt the opposing status."

Since the eighteenth century, the word has been taken as the translation of *obiectum*. A quarrel begins as to whether one should say ob-ject or ob-stacle...For a carpenter the wood is the object, that is, 'what he works against'- when he functions as cause.

With regard to the ontic-ontological distinction of beings and Being, what is objective is that in the object which has color, extension, etc.; what is objective: what constitutes its standing against as such.²⁴

Thus, the subject-object distinction emerges out of metaphysics, which in turn has emerged out of the onto-ontological distinction. It is the misunderstanding of being as *Cogito* and subject that has led the tradition to posit the rest of "the world" as over and against the subject.

²⁴ (EP), 58

...if the world appears merely as something that has meaning only in regard to man, then it becomes man's basic task to conquer the world. And man conquers the world mainly by means of objectifying projections, designs, calculations, and techniques... The more the world of things is perceived as that which is to be conquered and, thus, the more objective all beings begin to appear, the more subjective and subject becomes and begins to claim priority, and the more a science of the world changes into a science of man.²⁵

The movement toward objectification in modern science is obvious. Science aims to investigate the world by separating it from the "subject". With the appearance of separation, the scientist believes he can fully grasp every aspect of the entity because he stands outside of the entity. This "birds-eye view" of nature leads one to believe the object can be "objectified", that is, placed within a metaphysical framework where the entity is calculated, defined, and classified; thus creating an artificial boundary. What fits within the boundary is the object, what stands outside of this boundary is not the object. Any "object" in the world is subject to science (according to science). Therefore, modern science creates a worldview in which the subject stands in the middle, surrounded yet separate from objects waiting to be scientifically enclosed.

1.3.2 Objectification and Mathematics

While objectification is indeed a central aspect of modern science, it does not serve as the essence of modern science, rather objectification emerges out of mathematics, and it is the mathematical that becomes the essence of modern science. Of course, essence here should not be confused the some definitive permanent reality, rather essence, in the Heideggerian understanding can be understood as that which something does. Thus, the essence of science cannot be understood as if science is defined a priori, but rather as the action that science enviably undertakes.

How does the mathematical serve as the grounds of metaphysics? One reason is that it is the very nature of mathematics to "will to a new formation and self-grounding of the form of

²⁵ (HS), 178-179

knowledge as such.” That is, mathematics que mathematics has as its very nature objectification. Mathematically, metaphysically based knowledge must objectify, for in order to be based in mathematics, which acts as the source of all knowledge, knowledge must be able to be represented mathematically.

Because mathematics is a priori, prior to any experience of revelation of a thing, that thing has already been placed within a mathematical framework, a framework that defines, thematizes, and objectifies the thing according to its relation to the mathematical.

To illustrate the role of mathematics in modern science, Heidegger turns to Galileo. “In 1638 Galileo wrote in his *Discourses on Two New Sciences* ‘I think here of a body thrown on a horizontal plane and every obstacle excluded...the motion of the body over this plane would be uniform and perpetual, if this plane were extended infinitely’” Kockelman recognizes that through this thought experiment, “Galileo gave himself a cognition in advance about the determination of material things.”²⁶ Galileo’s a priori grounding in mathematics lead him to conceptually predetermine the nature all material objects, arguing that when thrown on a mathematical plane, every object will behave according to mathematics. Kockelman continues

There is here a prior comprehending of what should be essential to all bodies and their motions; all bodies are alike; there is no privileged motion; every place is like every other place; each moment in time is like any other; every force is to be determined by the change of motion which it causes. All determinations of bodies have one basic characteristic as their origin: each natural process is nothing but the space-time determination of the motions of certain point-masses.²⁷

To put it another way, the mathematical has created a world by which everything is placed on a mathematical plane or grid, by which its time and place can be plotted, every object and its nature is pre-determined by the laws of this grid, so when one imagines throwing a football from plot A to plot B on the grid, the football, prior to ever being thrown, is already defined and

²⁶ (HS), 150

²⁷ *ibid.*, 150

determined by the mathematics (force, gravity, inertia, time, space, momentum, etc.) in which it is contained. The nature of the football is taken in advance of it unconcealing itself, and is therefore never allowed to fully disclose itself because an image of what and how a football is and must behave is imposed on the thing a priori. Thus it is with everything that exists according to modern science. Everything's nature and behavior is subject to these mathematical laws and thus are pre-cognized before they can reveal themselves. In this way the mathematical objectifies. Math predetermines, predefines, and confines the truth of objects to mathematics itself. And with this as the grounds of modern thought, the rise of method and thematization in science is accounted.

Modern Science's drive toward thematization represents yet another mark of Modern Science's metaphysically determined objectifying nature. Thematization, or the movement toward theory in science, is undoubtedly prevalent in modernity.

In, *Being and Time*, Heidegger draws the distinction between objects "ready-at-hand" and objects "present-at-hand." The world "ready-at-hand" is the world encountered on the ontological level. One has an intimate and total relationship to his surroundings, so much so that one can function in and with the world without awareness or specific consideration toward what one is doing. For example, I have been typing the previous paragraphs with absolutely no conscious realization of my use of the keyboard as an instrument of typing, nor the chair I am sitting in as an instrument for sitting; nor the floor; books, pens, papers, etc. All of which I have used as items of gear with full competence and functionality, none of which have required specific, conscious consideration or attention. Heidegger argues I have been functioning with these objects on the ontological level; they are objects "ready-to-hand" and their functionality is not limited by what I choose to do with them. The keyboard can instantly go from an instrument for typing to a table for my coffee. Heidegger writes that "the world is that in terms of which the

ready-to-hand is ready-to-hand.”²⁸ That is, our ontological and therefore proper relationship to the world is the pre-conceptual relationship.

However, say the keyboard, perhaps after functioning as a coffee table, where to break. Before me now is blunt material upon which my attention and consideration must now turn. The keyboard no longer functions as an object “ready-to-hand” but as an object “present-at-hand” broken from its functionality, it is now an object to be studied for its objectiveness. This is what science does, it facilitates a shift from the fundamental ontological engagement with the world, to a separation from the world, in order to know objects. The biologist who approaches the fish must, necessarily, first encounter the fish on an ontological level. He then breaks this relationship with the world in order to reveal the particular aspect of the fish to be studied. Kockelmans writes,

Everything...depends on this formal aspect: the foundations of scientific research, the methods, the language, the type of argumentation, the mode of intelligibility, and the typical conception of truth and certitude. Thus, at the root of every science we find a “making present” of the beings that are within-the-world. This “making present” differs from our everyday concern in that it aims solely at disclosing the beings in an “objective” way, i.e., as pure data of theoretical observation, as ‘merely being there.’²⁹

Thus, when the scientist studies an object, it is always in a secondary manner, abstracted from the reality of one’s original encounter. Thus, the fullness of our primordial encounter with an object is lost, never to be regained as long as the object remains “present-at-hand.”

This creates an abstraction for science. In every case, the scientist focuses on one particular aspect of the object, thus clouding or ignoring the totality of one’s phenomenological experience with the object.

²⁸ (BT), 114

²⁹ (HS), 125

Therefore, science is not only metaphysical because it necessarily is based upon a mathematical model that pushes towards classification and control, but also because the nature of science is to focus and ignore aspects and parts of an object. Thus creating an internal separation within the object itself, in which the parts of an object can be objectified, where the dog or the human is merely a conglomerate of sections, each separate unto itself, somehow combined and unified around a central substance.

1.3.3 Technology

So, as we have seen, Heidegger recognizes science as essentially metaphysical and metaphysics as something to be “overcome.” Thus, as Heidegger sees it, our modern movement toward a positivistic scientific worldview is ultimately to our detriment. This can most easily be recognized in the “enframing” power of modern technology.

Modern technology is the offspring of a metaphysical understanding of the world. “Modern science’s way of representing pursues and entraps nature as a calculable coherence of forces.”³⁰ The same movement to objectify found in metaphysics has been translated into Modern science.

Heidegger tells us that technology, in its essence, is revealing. “Technology is therefore no mere means. Technology is a way of revealing. If we give heed to this, then another whole realm for the essence of technology will open itself up to us. It is the realm of revealing, i.e. truth...”³¹ That is, technology, as with everything else, is only knowable in so far as it reveals itself to Dasein. However, this revelation is not free from semblance or distortion. Rather, the metaphysical structure is so prominent within our understanding of technology that technology

³⁰ Martin Heidegger, “The Question Concerning Technology” in *Basic Writings*, ed. David Farrell Krell (San Francisco, Ca: Harper Collins Publishers 1997) 326 (Hereafter (QCT))

³¹ *ibid.*, 318

itself can serve as a semblance. That is to say, the objectification and totalization inherent in metaphysics is also present in our understanding of technology. As a result, technology itself is engaged in a movement of totalization. Heidegger refers to this movement as Ge-stell or enframing. Therefore, the essence of technology is revealing and what is revealed is enframing.

An example will help to illustrate enframing. Heidegger gives the example of a power plant built on the Rhine River.

The hydroelectric plant is set into the current of the Rhine. It sets the Rhine to supplying its hydraulic pressure, which then sets the turbines turning. This turning sets those machines in motion whose thrust sets going the electric current for which the long distance power station and its network of cables are set up to dispatch electricity. In the context of the interlocking processes pertaining to the orderly disposition of electrical energy, even the Rhine itself appears to be something at our command.³²

The first issue of note in the example is the appearance of the Rhine. The Rhine does not appear as a river, but as a power supply. Technology has enframed the appearance of the Rhine so that now it is merely an extension of the power plant, an energy source, a tool and nothing more.

Technology has enframed, objectified, and totalized the Rhine into an extension of technology.

Yet the example reveals further technological enframing. Note the sentence, “This turning sets those machines in motion whose thrust sets going the electric current for which the long distance power station and its network of cables are set up to dispatch electricity.” The power plant supplies energy quite literally into a grid, a Ge-stell. The power-grid transcends great distances and supplies power to people throughout the country. Thus technology enframes further by unifying all under a grid. Where before there were individual communities responsible for their own subsistence, now all are subject to the *collective* grid; in fact, citizens are so enframed by technology that they become dependent. The power-grid breaks down and society effectively ceases to operate. This became evident in 2003 when the entire northeastern power-

³² *ibid.*, 320

gird collapsed and the city of New York essentially shut down. Uncertain of what to do without their benevolent master, people left their cars in the middle of roads, businesses closed, and the entire city was brought to a standstill. The citizens of New York, as with us all, were wholly enframed by technology. Furthermore, the source of the blackout was in Easterlake Ohio, not New York, thus demonstrating the totalizing capacity of technology. Communities as far as Toronto Canada were collected under, and affected by, the totalizing nature of technology.

Heidegger continues by saying “But, it will be replied, the Rhine is still a river in the landscape, is it not? Perhaps, but how? In no other way than as an object on call for inspection by a tour group ordered there by the vacation industry.”³³ The river’s appearance now discloses a new world. The Rhine reveals itself, not as what it is, but as what Heidegger refers to as Standing-Reserve or a resource. “The word ‘Standing-Reserve’ assumes the rank of an inclusive rubric. It designates nothing less than the way in which everything presences that is wrought upon by the revealing that challenges.”³⁴

Standing-Reserve is the reduction of being to a resource for the maintenance and expansion of technology. Thus the Rhine is in Standing-Reserve because it is an instrument for the production of power or for public viewing.

However, Standing-Reserve is not limited to the Rhine. Dasein also finds itself as Standing-Reserve. This is perhaps the most dangerous element of technological enframing. As Standing-Reserve, Dasein is simply another cog in the technological machine. Man exists to serve technology, to produce it, correct it, and ultimately become dependent and enframed by it.

Standing-Reserve and enframing are interconnected. “We now name the challenging claim that gathers man with a view of ordering the self-revealing as standing reserve: Ge-stell

³³ *ibid.*, 321

³⁴ *ibid.*, 322

[enframing]”³⁵ There is no hierarchy, no way for enframing to occur without producing standing-reserve.

From what we have seen, it appears technology is an unstoppable juggernaut quite literally devouring the countryside. One might argue that being is so enframed that to break from enframing would require a catastrophic event, something that would tear down our technological world and require a new beginning. However, all is not lost. While Heidegger does not specifically produce an alternative to our technological age, in fact “when in interviews Heidegger was asked whether from his thought constructive proposals could be derived, his answers were emphatically negative”³⁶ Heidegger does however provide brief insights into a new world free from modern technologies enframing and how such a world could possibly be achieved.

For example, Heidegger identifies what he calls “the saving power.” “Thus where enframing reigns, there is danger in the highest sense.

But where danger is,
The saving power also.”³⁷

Heidegger suggests that it is Dasein who has the power of “granting”, that is, Dasein is necessary for the revelation of truth. It is man that unconceals and conceals, that allows for the appearance of truth and semblance, and it is in this capacity that the saving power rests upon mans shoulders. Man, as granter, has the sole capacity to recognize the essence of technology as enframing. Thus, it is in the very essence that threatens us that we are saved. “Everything, then, depends upon this: that we ponder this rising and that, recollecting, we watch over it. How can this happen? Above all through our catching sight of the essential unfolding in technology, instead of merely gaping at the technological. So long as we represent technology as an instrument, we

³⁵ *ibid.*, 324

³⁶ Catherine Francis Botha, “Heidegger, technology and ecology”, *South African Journal of Philosophy* (2003), Vol. 22 Issue 2, 165

³⁷ (QCT), 333

remain transfixed in the will to master it. We press on past the essence of technology.”³⁸ Man must become the keeper of the essence of technology because it is man alone who grants its unconcealment.

³⁸ (QCT), 333

CHAPTER 2: DEWEY, METAPHYSICS, AND SCIENCE

2.1 Dewey's Instrumentalism

Too often, the strength of science, its methods, and its discoveries are ignored in philosophy. This is partly due to an archaic metaphysical system upon which philosophy is based. John Dewey saw the absolute importance of science, and the negative affect metaphysics can have on our theories of knowledge. By studying Dewey's philosophy, one can 1) clearly identify why classical metaphysics arose 2) Distinguish Dewey's view of metaphysics from the traditions 3) Show how Dewey's view affects the metaphysical notion of substance. It is only after such an understanding is in place can one truly understand the importance of Dewey.

John Dewey classifies his philosophy as "empirical naturalism" or "naturalistic empiricism."³⁹ Empirical, in so far as one can only know what is revealed through experience and naturalistic in that the experience upon which one obtains knowledge is always derived from one's natural environment. However, it should be noted that Dewey's understanding of the natural environment is not limited to what one normally considers "nature" (the earth, tree, animals etc) but also man's social environment as well.

In either case, man is not separate, over and above, his surroundings, but an intimately connected part of the environment. Dewey's philosophy of knowledge is often referred to as "Instrumentalism." Instrumentalism holds that the idea's, actions, motivations, and desires of the human being are instruments, or tools, developed through evolution, in reaction to the environment for the purpose of adaptation.

Dewey's Instrumentalism places him in sharp contrast to traditional philosophers "as widely diverse as rationalism, British empiricism, and Kantianism [who] have a common root in

³⁹ John Dewey, *Experience and Nature* (New York: Dover Publications INC., 1958) 1a (hereafter EN)

the ancient view which conceives the knower as a spectator of the world about him.”⁴⁰ For Dewey, such schools of thought are based upon a false metaphysical assumption of a subject, over and against, objects. For example, Dewey writes regarding Aristotelian epistemology,

There was bequeathed to generations of thinkers as an unquestioned axiom the idea that knowledge is intrinsically a mere beholding or viewing of reality—the spectator conception of knowledge. So deeply engrained was the idea that it prevailed for centuries after the actual progress of science had demonstrated that knowledge is power to transform the world, and centuries after the practice of effective knowledge had adopted the method of experimentation.⁴¹

Rather than a philosophy of being, which posits a concrete subject over and against the world, Dewey’s is a philosophy of “becoming” in which one is not separated from the world, but is inseparably interconnected to, and molded by the environment.⁴² Writing in *Experience and Nature*, “Every existence is an event”⁴³

With this basic understanding in place, one can investigate what Dewey has to say regarding metaphysics in the tradition, as well as Dewey’s new conception of metaphysics.

2.2 The Historical and Psychological Emergence of Metaphysics

Dewey argues that classical philosophy arose out of the need to reconcile traditional views with empirical scientific evidence. For example, Culture X has a moral/social taboo against the wearing of cotton socks. This taboo, whatever its origin, has been reinforced through tradition and practice. Perhaps, one poor individual took it upon himself to wear cotton socks and days later was killed by a falling tree branch, thus furthering the taboo. However, such a social peculiarity begins to seem foolish when faced with empirical, scientific evidence that

⁴⁰ Robert E. Dewey, *Philosophy of John Dewey*, (the Hague: Martinus Nijhoff, 1977) 8-9 (Hereafter (PJD))

⁴¹ John Dewey, *Reconstruction in Philosophy* (New York: Dover Publications Inc. 1920, 1948, 2004) 112 (Hereafter (R))

⁴² This position closely resembles Martin Heidegger; the connection between Dewey and Heidegger will be explored in the conclusion.

⁴³ (EN), 71

shows there is no relation between the materials of one's socks and falling tree branches. Thus, according to Dewey, it becomes the role of the metaphysician to demonstrate, not only that the social, political, and moral practices of the culture are true, but also that they are ultimately true. The metaphysician, through "elaborate terminology, a hair-splitting logic, and a fictitious devotion to the mere external forms of comprehensive and minute demonstration"⁴⁴ attempts to show that there is a higher, otherworldly imperative demanding that socks be worn. Dewey writes:

"Since [metaphysics] aimed at a rational justification of things that had been previously accepted because of their emotional congeniality and social prestige, it had to make much of the apparatus of reason and proof. Because of the lack of intrinsic rationality in the matters with which it dealt, it leaned over backward, so to speak, in parade of logical form... when it comes to convincing men of the truth of doctrines which are no longer to be accepted upon the say-so of custom and social authority, but which also are not capable of empirical verification, there is no recourse save to magnify the signs of rigorous thought and rigid demonstration. Thus arises that appearance of abstract definition and ultra-scientific argumentation which repels so many from philosophy but which has been one of its chief attractions to its devotees."⁴⁵

Thus, the origin of traditional metaphysics is in the psychological needs of the human psyche. It is not because metaphysician's successfully grasped the true nature of existence that metaphysic's arose. Rather, Dewey tells us that philosophy "did not develop in an unbiased way from an open and unprejudiced origin. It had its task cut out for it from the start. It had a mission to perform, and it was sworn in advance of to that mission."⁴⁶ The mission was to reinforce the beliefs already in existence.⁴⁷ One may respond, "Didn't the Greek's kill Socrates for shaking their traditional beliefs?" Absolutely, the methods of Socrates, Plato, and Aristotle

⁴⁴ (R), 12

⁴⁵ (R), 12

⁴⁶ (R), 11

⁴⁷ Barbara Oakley, in her book *Evil Genes*, tells us that psychologist call this "confirmation bias." "It involves behavior where one looks for and notices things that confirm one's beliefs, while ignoring, not looking for, or undervaluing the relevance of what contradicts one's beliefs. Selective things. A bit of voluntary blindness. Dangerous Stuff." Barbara Oakley, *Evil Genes*, (New York: Prometheus Books, 2007), 179

were certainly radical and this shock the Greek's to the core. However, Dewey tells us that, when viewed historically, Socrates, Plato, and Aristotle are deeply indebted to Greek culture, so much so that their philosophical systems could not have arisen without their social environment.⁴⁸ This "apologetic spirit of philosophy"⁴⁹ continues through to the medieval period, reducing philosophy as a means to reinforce the positions of the church, up through Hegel, who used idealism to buttress the scientific and political environment of the time. However, after Darwin, this form of philosophy has no place. Metaphysics is revealed as merely psychological attempts to make sense of what is nonsensical. Metaphysics reveals "a confession of inability to master the courses of things that specifically concern us."⁵⁰ The old tradition must be replaced by a new metaphysics.

2.3 Dewey's New Metaphysics

Dewey understands metaphysics as the search to for "ultimate origins" or the fixed, unchanging, permanent traits of reality. He recognizes the "seeds" of metaphysics in the Aristotelian definition of metaphysics as the search for being que being. And as previously stated the desire for such permanence has a psychological origin. As Robert E. Dewey puts it, "He is accusing his predecessors of being trapped in the snares of what one might call an 'emotional ontological argument', whose schema is: I need the security of X, therefore X has Being."⁵¹

⁴⁸ The resulting philosophy seemed radical enough and even dangerous to the average Athenian because of the difference of form and method. In the sense of pruning away excrescences and eliminating factors which to the average citizen were all one with the basic beliefs, it was radical. But looked at in the perspective of history and in contrast with different types of thought which developed later in different social environments, it is now easy to see how profoundly, after all, Plato and Aristotle reflected the meaning of Greek tradition and habit, so that their writings remain, with the writings of the great dramatists, the best introduction of a student into the innermost ideals and aspirations of distinctively Greek life. (R), 11

⁴⁹ (R), 12

⁵⁰ John Dewey, *The influence of Darwinism on Philosophy and other essays in contemporary thought* (New York: Henry Holt and Co., 1910), 17

⁵¹ (PJD), 93

As stated above, Dewey identifies the “subject-matter” of traditional metaphysical concerns with antecedently ultimate origins. However, scientific inquiry has usurped this investigation away from metaphysics. Metaphysics begins with the assumption of a permanent and necessary universe, and then attempts to derive an origin from this assumption; arguing that, inherent in the metaphysical structures underlying nature, certain particulars emerge; these particulars have their “ultimate” source in the fixed metaphysical reality. Science, on the other hand, begins with a particular problematic situation that must be overcome for example, causality; Dewey writes “Any intelligible question as to causation seems to be a wholly scientific question. Starting from any given existence, be it a big thing like a solar system or a small thing like a rise of temperature, we may ask how it came about.”⁵² Take for example a polluted river. The pollution presents an obvious problem and it is the role of science to take on this problem. Part of the inquiry would include an investigation into the source or cause of the pollution. This is necessary because otherwise the problem cannot be resolved. Science then investigates the problem of cause through other particular causes (i.e. the slash and burn of a forest leads to runoff of pollutants into the river, which leads to poisoned drinking water, etc), and so on until the practical capacity of our questioning reaches an impasse. It is this distinction between the all-encompassing generalizations of metaphysics and the investigations of particular entities that sets science above metaphysics.⁵³

To further demonstrate the innate failure of metaphysical inquiry, Dewey provides an example of attempting to trace the “ultimate” origins of the French language.

Thus we might inquire as to the ‘ultimate’ origin of the French Language. This would take us back to certain definite antecedent existences, such as persons speaking the Latin tongues, others speaking barbarian tongues; the contact of these peoples in war, commerce, political administration, education, etc. But the

⁵² John Dewey, “Subject-Matter of metaphysical inquiry” *Journal of Philosophy, Psychology, and Scientific Methods*, Vol. 12, No. 13 (Jun. 24 1915) 338 (Hereafter Subject-Matter)

⁵³ *ibid.*, 338

term ‘ultimate’ has meaning only in relation to the particular existence in question: French speech. We are landed in another historic set of existences, having their own specific antecedents. The case is not otherwise if we ask for the ultimate origin of human speech in general. The inquiry takes us back to animal cries, gestures, etc., certain conditions of intercourse, etc.⁵⁴

Dewey’s point here is to demonstrate that in investigating the casual origins of language, or any causal relationship at that, the investigation never yields an ultimate origin. There is always a plurality of causes for any particular thing. There is nothing inherent within Latin that necessitated its evolution into French.⁵⁵ Rather, it is only through the interaction of several factors that French arose.⁵⁶

Inquiry into the ultimate origins of the universe and everything in it yields similar results. Dewey argues that such an inquiry, taken as a whole, is “meaningless.” Yet if one were to search for an ultimate origin through particulars, (as one must necessarily do) the results always yield the origin of *that particular* problem, no more no less, and any attempt to generalize one particular origin into a comprehensive ultimate origin always fails.⁵⁷ No origin can be said to be solitary, fixed, and ultimate. And when, as inevitably happens, we reach the limits of our capacity to investigate, “reference to some immanent law or cause which forced the evolution will be found to be a lazy cloak for our ignorance of the specific facts needed in order to deal successfully with the question.”⁵⁸ It is the role of science, which never seeks necessary, ultimate traits, and not metaphysics to investigate causal relationships and questions of origin. Thus, metaphysics fails in its purpose and therefore must be abandoned.

⁵⁴ *ibid.*, 339

⁵⁵ No one would think to refer to latent qualities of the Latin speech as the cause of the evolution of French. *Ibid.*, 339

⁵⁶ ...one tries to discover actual and overt features which, *interacting* with other equally specific existences, brought about this particular change. *Ibid.*, 339

⁵⁷ *ibid.*, 339

⁵⁸ *ibid.*, 339

However, it must be understood that, in Dewey's eyes, science is not about inquiry into origins qua origins, but about future practice and societal improvement. The issue is not where we came from for its own sake, but the application of that inquiries acquired knowledge and its application in the future. For example, the brilliance of Darwin is not solely found in his theory, but that his theory began a paradigm shift that affected every future inquiry. The theory of evolution created a "structure" in which other inquires must fit. The overt purpose of science is not the deconstruction of metaphysically grounded origins, it just so happens that these origins become deconstructed as a result of our scientific investigations.

It is the role of science, not metaphysics to investigate causality, connections, and interrelations. However, Dewey does not completely dismiss the possibility of any form of metaphysical inquiry. Remember, Dewey understands metaphysics as the search for "ultimate traits", and while modern science has undercut the traditional role of metaphysical inquiry, ultimate traits still exist in nature. Therefore, Dewey does not call for the complete destruction of metaphysics; only a shift in the aims of metaphysics, from other worldly permanence and ultimate causation, to what is ultimately universal in nature. Dewey's new metaphysics is concerned with "Specifically diverse existences, interaction, [and] change"⁵⁹ These natural traits appear to have a certain permanence, for "they are found equally and indifferently whether a subject-matter in question be dated 1915 or ten million years B.C. Accordingly, they would seem to deserve the name of ultimate, or irreducible, traits. As such they may be made the object of a kind of inquiry differing from that which deals with the genesis of a particular group of existences, a kind of inquiry to which the name metaphysical may be given."⁶⁰ That is scientific

⁵⁹ *ibid.*, 340

⁶⁰ *ibid.*, 340

inquiry, as the foundation of knowledge, has demonstrated that these traits seem to exist permanently in nature.

Clearly, metaphysics of change places Dewey in sharp contrast to a tradition that sought ultimate, antecedent, permanence. What is real is what is permanent, while what changes and is contingent is merely illusion or appearance.⁶¹ Dewey refers to this misunderstanding as “the philosophical fallacy” in *Experience and Nature* and it is this fallacy that has permeated philosophical inquiry (partly due to the philosopher’s exhalative social or academic status) and has biased philosophy against the truth of scientific revelation.⁶²

2.3.1 Change

Dewey is nothing if not a Darwinian. Dewey held that the theory of evolution has completely undercut our previous assumptions about a fixed reality. “In *Human Nature and Conduct*, published in 1922, he went so far as to define evolution strictly in terms of change. ‘In fact evolution means continuity of change; and the fact that change may take the form of present growth of complexity and interaction’”⁶³ Dewey used Darwinian evolution as the foundation for his philosophy, and if evolution demonstrates all-encompassing change, than Dewey must accept and explain this change. Old metaphysics centered on “ultimate reality” and permanence simply will no longer do.⁶⁴

It could be argued it is precisely this issue, the issue of change, that gave birth to western philosophy. The Platonic Forms and the Aristotelian substance both were developed to

⁶¹ Wishing superior values to be real, he assigns his valued characteristics to ultimate being and relegates such disturbing characteristics as change, plurality, and contingency to the realm of mere appearance. (PJD) 90

⁶² “For reflection the eventual is always better or worse than the given. But since it would also be better if the eventual good were now given, the philosopher, belonging by status to a leisure class relieved from the urgent necessity of dealing with conditions, converts the eventual into some kind of Being, something which *is*, even if it does not *exist*... a conversion that may be said to be *the* philosophic fallacy...” (EN) 28-29

⁶³ Raymond D. Boisvery, *Dewey’s Metaphysics* (New York: Fordham University Press, 1988) 51 (Hereafter (DM))

⁶⁴ *Ibid*, 47, 51

provide permanence to the phenomena of change. For if everything is in flux how is knowledge about the world possible? The minute one thinks he knows something the next minute that something has changed and one knows nothing again. Furthermore, if everything is in constant flux, how does one account for “such familiar constancies as the daily sun, the dependable presence of our place of dwelling, and the recognizable identities of our friends.”⁶⁵

Dewey explains the appearance of permanence by distinguishing two forms of change, “process” and “structure.” A process of change can most easily be classified as rapid and unsteady change. For example, if one were to set a match to a sheet of paper, the paper rapidly burns and changes into another state. The burning of paper does not occur necessarily or regularly, it is an irregular event. Structure on the other hand, is sustained and regular change over a long period of time. This change may not be recognizable to the human eye. For example, from our prospective on earth, we see the sun burning, millions of miles away, seemingly unchanged since the beginning of recorded history. However, we now know, through scientific inquiry, that in fact, the sun is changing. Daily the sun burns off unimaginable energy, steadily weakening itself until one day there is no fuel left to burn and the sun is no more. This is structural change, consistent change over long periods of time. Furthermore, structure serves as a framework in Dewey’s philosophy. Robert E. Dewey argues it serves a similar role to substance, in that structure provides a framework, though not permanent, upon which events can take place⁶⁶. The structure of the Sun keeps it in relative consistency and allows for process changes to occur. Dewey uses the example of a house.

A set of traits is called structure, because of its limiting function in relation to other traits of events. A house has a structure; in comparison with the disintegration and collapse that would occur without its presence, this structure is fixed. Yet it is not something external to which the changes involved in building and using the house have to submit. It is rather an arrangement of changing events such that properties, which change slowly, limit and direct a series of quick

⁶⁵ (PJD), 102

⁶⁶ *ibid*, 106

changes and give them an order, which they do not otherwise possess. Structure is constancy of means, of things used for consequences, not of things taken by themselves or absolutely.⁶⁷

This is nothing short of a brilliant move by Dewey, for it allows him to speak of change while still maintaining a structure upon which other changes can take place and be understood. The Greek response to this world of change was to construct elaborate metaphysical systems that promised permanence and stability (and unconscious psychological relief) in the face of change and insecurity. Dewey, on the other hand, can maintain change at all levels without sacrificing our ability to know the world and without appeal of otherworldly phenomena.

2.3.2 Substance

Dewey's metaphysics of change has consequences for the traditions view of substance. Robert E. Dewey writes, "Dewey's conception of structure stands in his philosophy as a correlate to the traditional notion of substance in at least one sense, namely, the sense in which substance is conceived as that which remains constant throughout change."⁶⁸ This statement needs further explanation however, for there should be no confusion that Dewey does not adhere to classical notions of substance or essence. Philosophers of substance (Aristotle, Descartes, etc) argue for permanence outside the realm of experience that remains throughout change. Dewey recognizes this as an error because it assumes substance without empirical evidence. Rather, our senses demonstrate a world of impermanence and change. What appears to be permanent is merely the objects structure, which itself undergoes constant change.

To further demonstrate how Dewey's structure and process differs from traditional notions of matter and form; which in turn is analogous to the subject-object distinction, in which matter represents that which is objectified, while the form of the matter serves to define and classify the matter, let us follow Robert E. Dewey in comparing Aristotle to Dewey. First, there

⁶⁷ (EN), 72

⁶⁸ (PJD), 106

does appear to be similarities between the two views. For Aristotle, matter and form were not separate entities apart from the individual, rather they *must* be taken together, one cannot have matter without form and vice versa. Likewise, Dewey does not see structure and process as separate entities, but rather structure serves to collect, organize, and arrange processes. You cannot have structure without the processes to form it, nor can you have processes without structural organization. Robert Dewey argues that it is the necessary co-constitution of both Aristotelian matter-form and Deweyan structure-process that allows both to avoid the difficulties of their predecessors.

By virtue of making these distinctions in the way they do, both philosophers are able to avoid problems which arise in other systems. In Aristotle's case, there is no need to deal with the unsolved Platonic problem of how forms are related to matter. In Dewey's case, there is no need to explain how uniformities of structure can be combined with events in perpetual flux. Neither matter and form, nor structure and process, refer to separately existing parts. By the nature of the case, they cannot be treated as though they were building blocks, which must be put together. Hence, no problem of their joining arises.⁶⁹

However, it is here that the differences end. Dewey's natural empiricism allows him to escape from the Aristotle's individual and thus avoids difficulties in relating one individual to another. Rather, for Dewey everything in nature is deeply interconnected, so much so that one thing can never be said to be separate from another.⁷⁰ Therefore, where Aristotle began with individuals and then relied on the metaphysical notion of a fixed essence to relate these individuals to family, genes, species, etc, Dewey's philosophy allows him to identify interconnectedness without appeal to metaphysical notions.

Furthermore, Aristotle examines entities outside of contextual problems or concerns. If everything has an essence determining it's proper being, and this essence is unchanging, than one

⁶⁹ *ibid*, 108

⁷⁰ There is no action without reaction; there is no exclusively one-way exercise of conditioning power, no mode of regulation that operates wholly from above to below or from within outwards or from without inwards. Whatever influences the changes of other things is itself changed. (EN), 74

can examine any entity in any context because that which makes the entity what it is transcends context. In contrast, Dewey argues that because everything in nature is affected by everything else, structure must be understood strictly within the context in which it is studied. Take for example a Dog. Aristotle would argue one can begin with the individual dog, and because this dog shares its essence with other dogs, one can extrapolate the findings in the individual to the totality of dog-hood. For Dewey, one can study the structure of the dogs eating patterns, his skeletal structure, his propensity to defecate on the carpet; but these structures must always be understood in the problematic context in which they are investigated. This is because the dog is not a thing *per se*, but a complex structure of events. “No one set of characteristics constitutes *the* structure of the complex.”⁷¹ The constitutions of structure differ depending on the context in which it is placed. The bone structure may be understood as holding the body together in one context, while in another context the bone structure may play a different role. There is no essence unifying every instance, only contextual relevance and change.

As we have seen with the prior comparison with Aristotle, Dewey turns to the tradition to critique the notion of substance, as well as its natural offspring, subjectivism. Dewey argues that the roots of subjectivism can be traced as far back as ancient philosophy. “In approaching the exaggerations of individual mind found in modern philosophy which go by the name of subjectivism and a large part of what is termed idealism, we may profitably recur to ancient thought”⁷² The ancients, operating under metaphysical assumptions, assumed that every human institution is derived out of the natural law and therefore cannot be usurped or replaced. One cannot stand against religion because religion is a result of nature. The institution is nature and as such reflects nature’s metaphysically fixed and permanent state, thus it became the individual

⁷¹ (PJD), 109

⁷² (EN), 223

who is set over and against nature and its institutions.⁷³ Dewey points to this movement as the historical beginnings of, what Heidegger calls, the subject-object distinction, the fact that the individual is wholly autonomous, over and above everything else. Subjectivity becomes more engrained in the tradition through the Middle Ages, with “the conspicuous assertion...that the individual soul is the ultimate end and ultimate subject of salvation or damnation...”⁷⁴

Thus, the ancient and medieval tradition lays the foundation for modernity to complete isolate the subject from his environment. So while Descartes thought he was shaking the philosophical ground of previous institutions, and developing radical new ideas, he in fact was so blinded by the tradition in which he found himself that he only manages to complete the subjective isolation the tradition had begun. Wholesale revolt against tradition led to the illusion of equally whole isolation of mind as something wholly individual. Revolting and reforming thinkers like Descartes little noted how much of tradition they repeated and perpetuated in their very protest and reforms.”⁷⁵ One cannot help but be struck by the irony; Descartes put the final nail the metaphysical construction of the subject by trying to reform the tradition out of which subjectivity arose. While trying to escape the tradition, Descartes became its servant.

2.4 Dewey and Science

Dewey is such a proponent of science and its methods that he thinks the scientific method should be employed in every range of inquiry. It is now clear that Dewey’s critique of metaphysics is informed from his knowledge of science, particularly Darwinian evolution. However, as Robert E. Dewey observes, the entirety of Dewey’s philosophical thought is grounded in the scientific knowledge of his day, so much so that “When historians of the future

⁷³ The resource which offered itself was to place the mind of the individual as such in contrast to both nature and institutions (EN), 224

⁷⁴ (EN), 224

⁷⁵ (EN), 224

seek to find the authors whose works best express the spirit of new movements in their time, they are bound to note that, to the thinkers of several generations in America, John Dewey as *the* spokesman of science.”⁷⁶ The following provides an examination of how Dewey’s metaphysical thought is directly influenced by his metaphysics.

Dewey’s critique of substance is derived from science. Evolution holds living thing on the plant evolved to adjust to its environment. Thus, the human species, at its most basic and fundamental level, is merely reacting to his surroundings.⁷⁷ The result of this scientifically informed world-view is nothing less than the collapse of subjectivity, based upon the idea of “a self contained mind standing outside nature and observing its processes like a non-participating spectator.”⁷⁸ Thus, humanity does not hold a lofty perch above lower life forms, but all forms of nature, including humans, arose from the same processes and ultimately out of the same cosmic stardust. One can see that it was a strict adherence to scientific knowledge that allowed Dewey to abandon the egocentric, metaphysically based view of subjectivity.

Furthermore, as we have already observed, Dewey finds ammunition for his critique of the tradition as metaphysical through the science of psychology. However, even the psychological state of our species is inseparable from the stimulus-response environmental model of Darwinian evolution of biology. Therefore, without repeating the psychological critique of metaphysics, one recognizes that Dewey sees science as revealing to contemporary man not only what metaphysical thought is, but also where and why it arose.

One cannot separate Dewey’s deconstruction of metaphysics from his knowledge of science. With metaphysics out of the picture, an epistemological gap emerges, thus creating a

⁷⁶ (PJD), 52

⁷⁷ The entire significance of the evolutionary method in biology and social history is that every distinct organ, structure, or formation, every grouping of cells or elements, has to be treated as an instrument of adjustment or adaptation to a particular environing situation. *ibid.*, 55

⁷⁸ *ibid.*, 55

problematic situation that requires resolution, and it is the role of science to fill the epistemological gap and solve the problem. The scientific discoveries of Dewey's time, particularly the epoch shifting discoveries of Darwin, provided the evidence of change upon which Dewey builds. Furthermore, Darwin laid the groundwork for Dewian Instrumentalism, by knocking humanity off of its self-constructed pedestal of superiority, and placing him back into the natural environment, so much so that one cannot be said to be separate from the surrounding environment. This move destroyed the metaphysics of substance and the subject-object dichotomy. For one cannot be inseparably molded by his surroundings while maintaining a split between oneself and his environment. Also, by turning to the science of psychology, Dewey provides a historical account of why metaphysics arose, thus providing a necessary explanation for its existence, for if one cannot account for why metaphysics exists in history one is justified in assuming that metaphysicians simply grasp reality. Clearly then, one can see that it is science that directly influenced Dewey's critique of metaphysics.

Nonetheless, despite an ontology that emphasis the interconnection between the self and the environment, there is much controversy as to how Dewey' instrumentalism intends for the environment to be used. Dewey identified his philosophy as both "instrumentalism" and "naturalism", two terms that appear to be in sharp contrast to one another. However, upon closer investigation, one sees that no such contrast exists. For Dewey, the environment is the totality of actions and inquiry, one cannot use the "environment" per se, it is far too broad and complicated. However, one can use particular aspects of one's surroundings as instruments for adaptation. For example, one can use coal to heat homes. Thus, Dewey's naturalism and instrumentalism dovetail nicely, one is part of the complex environment while still managing to use aspects of one's surroundings to adapt to that environment.

At first glance, a philosophy by which nature is free to be used and manipulated may seem to contradict Dewey's original premise of interconnection. However, this is not the case. For, as Dewey sees it, one evolved "in and of" a specific environment in which there is a continuous sharing of reactions and adaptations. To exist is to adapt, and thus without any conscious interaction with the environment, one is both affecting his surroundings and being affected by his surroundings. Thus, to use nature as an instrument is not a violation of nature's sovereignty, but merely the conscious acceptance of what is already the case, namely adaptation. One is already using, as well as being used by, the environment simply through existing, therefore to control stable aspects of one's surroundings toward altering the larger environment toward the improvement of the total experience in that environment is natural.

CHAPTER 3: COMPARING DEWEY AND HEIDEGGER

Now that we have an understanding of both Dewey and Heidegger's views concerning metaphysics and its relationship to science, it is time to compare the two thinkers philosophies in order to etch out their similarities and differences, to see if a reconciliation is possible between their obviously divergent views on science, and if not, to finally endorse one view over the other.

There are two main areas in which Dewey and Heidegger's philosophies' share similarities; the historical emergence of metaphysics and the traditional view of substance as metaphysical. These two areas of thought are essential to understanding, not only the similarities and differences between the two thinkers, but also because it is out of these areas that their philosophy of science emerges. One cannot know Dewey's view on science until one knows his critique of substance, nor can one know Heidegger's critique of science until one sees the subject-object distinction. Nor can one understand these notions without understanding their historical emergence. Once we have evaluated these two areas of similarity, we shall attempt to recognize why such similar views lead to divergent conclusions about the role of science, in other words, with all the same ingredients, why does two different cakes emerge.

3.1 The Tradition

“There is, however, an obvious way of distinguishing critics of the tradition like Dewey and Heidegger from the amateur, the philistine, the mystic, or the belletrist. This is the depth and extent of their commentary on the details of the tradition.”⁷⁹

-Richard Rorty

The first area of comparison between Dewey and Heidegger regards their philosophy concerning the tradition. While neither is the first to actively engage the tradition in their

⁷⁹ Richard Rorty, “Overcoming the Tradition: Heidegger and Dewey,” *Review of Metaphysics* Vol XXX No. 2 Issue 118 (Hereafter (OTHD))

philosophy (Hegel for example, proceeds both) there is little doubt about the importance the emergence of prior philosophies plays in both thinkers.

Clearly, both recognize the emergence of metaphysics as a symptom, a misrepresentation of the truth of reality, the philosophical equivalent of original sin, committed by forefathers, reinforced overtime and tradition, and finally delivered to us, naive and ignorant. Both insist on staring into our past to discover our present condition. Richard Rorty argues that it is the philosophers need to study his tradition that distinguishes philosophers from other disciplines.⁸⁰ For, it is truly a rarity for a philosopher to emerge out of the tradition with wholly original insights, when he does emerge, the philosophical community creates a school of thought around the original insight, study it, analyze it, poke and prod it from every angle, until the original thought is swept up into the philosophical cannon, becoming itself a part of history. Philosophers, for the most part, are the carriers of the tradition, identifying themselves with the verb form of other thinker's surnames (i.e. I am a Kantian, I am an Aristotelian, I am a Heideggerian, etc). Yet, it is a rare few who, while recognizing the importance of the tradition, want to tear it down and start anew. Both Heidegger and Dewey realized that the tradition must be overcome, if philosophy is ever going to advance beyond its metaphysical foundations.

Heidegger sees the emergence of metaphysics as a linguistic movement after the original misunderstanding of the ontological difference, only to be further perpetuated by religious tradition and otherworldliness. The misrepresentation of Being and the shift to metaphysics becomes so infused in our history that our language begins to reflect it, and when one's language itself becomes immersed in metaphysics, the language, as well as the tradition from which it

⁸⁰ The self-image of a philosopher- his identification of himself as such (rather than as, perhaps, an historian or a mathematician or a poet) - depends almost entirely upon how he sees the history of philosophy. It depends upon which figures he imitates, and which episodes and movements he disregards. *ibid.*, 285

sprang, must be overcome.⁸¹ This desire to rip down the established linguistic tradition, with its inherent metaphysical leanings, explains Heidegger's seemingly strange terminology and style of writing. For example, Heidegger does not speak of man as a subject, as the tradition has presupposed, but rather redefines man as Dasein, translated as "there-being" and representing Heidegger's ontology of fundamental orientation in the world.

Dewey on the other hand, sees the tradition in a more psychological mode, arguing that metaphysics was *Homo sapiens* way to make sense of a nonsensical universe. Metaphysics provides solidity and comfort, permanence and final ends, which console those who did not have the modern tools for understanding the cosmos. The human mind evolved to loathe the unexplained, search for answers, even when no answer is available, and to make up solutions to the best of one's capacity, even when these answers are metaphysical and wrong.

So, we now see that both philosophers placed a great deal of emphasis on the tradition, in order to defeat metaphysics. I contend that if one is to deconstruct metaphysics, the tradition is the only place to turn. Metaphysics had to come from somewhere, it either reflects a true metaphysical reality or it popped out of someone's head. Both Heidegger and Dewey know that metaphysics must be overcome in terms of the tradition. For, if one is to analyze metaphysics upon metaphysical grounds, one admits to the existence of metaphysics. If one argues that metaphysics emerges from our knowledge of God, then one admits to the already metaphysical concept of God. No, too know the origins of metaphysics without presupposing the truth of metaphysics; one must turn to the tradition as the only source of its emergence.

Both Heidegger and Dewey recognize this, however, if one were to read each philosopher through the eyes of the other, one sees that both would classify the other as a benefactor of the

⁸¹ For example, Paragraph 44 of being and time provides a detailed account of how the original intention of the word for truth, *aletheia*, meaning disclosure, underwent a shift in meaning to represent the metaphysical notion of a fixed substance and its agreement with the world.

tradition. For example, Richard Rorty argues that Heidegger would see Dewey as attempting to overcome the tradition while still enframed by the traditions metaphysical language. “For Heidegger, Dewey’s sketches of the history of philosophy are, at best, pathetic examples of the futility of attempting to overcome metaphysics by using the vocabulary of metaphysics (e.g., ‘experience’ and ‘nature’)”⁸² On the other hand, Dewey would read Heidegger’s view of the tradition as “academic parochialism.”⁸³ Rorty writes about the Deweyan view of Heidegger, “Who but a philosophy professor, after all, would think that the drama of twentieth-century Europe had some essential relation to the ‘Vollendung der Metaphysik.’”⁸⁴ That is to say, while Heidegger sees Dewey as trapped in the traditions metaphysical language, Dewey sees Heidegger as a typical academic, over stating the importance of his own profession in shaping the direction of the world.

Furthermore, the later Heidegger’s turn toward mystical prose about the “four-fold” of “earth, sky, divinity, and mortals” is exactly the kind of spiritual otherworldliness that Dewey rejects throughout the tradition. Indeed, I agree with Rorty in reading Heidegger as still dependent upon the tradition that he desires to overcome. That, in fact, the whole of Heidegger’s philosophy depends upon the traditions metaphysical use of language. For, it is only through negation, the demonstration of where the tradition went wrong, does the ontological difference gain any strength.

“Heidegger’s attachment to the notion of ‘philosophy’ - the pathetic notion that even after metaphysics goes, something called ‘Thought’ might remain-is simply the sign of Heidegger’s own fatal attachment to the tradition: the last infirmity of the greatest of the German professors. It amounts to saying that even though everybody who has previously counted as a paradigm of philosophy – Plato, Thomas, Descartes, Nietzsche- turned out to be a step on a path toward chaos, we must still try to be philosophers...No matter how much Heidegger seems to have overcome our professional urge to compete with the great dead philosophers on

⁸² Ibid., 299

⁸³ Ibid., 295

⁸⁴ Ibid., 295

their own ground, no matter how much he may try to distance himself from the tradition...he is still insistent that the tradition offered us ‘words of being’...*The whole force of Heidegger’s thought lies in his account of the history of philosophy*”⁸⁵

Dewey on the other hand, sees the tradition mostly as a failure that should be wholly abandoned. Rather the emphasis of philosophy should turn from metaphysically informed attempts at epistemology, toward socially conscious analysis of society and behavior, through science, for the betterment of humanity. Of course, Heidegger would respond that Dewey has wrongly placed his focus upon beings (i.e. the environment, science and its desire to categorize and classify) rather than the true path of philosophical inquiry, being itself.

In any case, both thinkers recognize metaphysics, with its linguistic emergence in Heidegger and its psychological emergence in Dewey, as the assumptions of the past, reinforced through control structures which themselves depend up metaphysics for their very existence. For example, the structures of the church throughout the middle ages enforced a strict metaphysical dependence. Even when a thinker, like Descartes, attempts to radically question the assumptions of the establishment, he still, consciously or unconsciously, acknowledges the establishment’s metaphysics.

Heidegger and Dewey both turn their historical eye to Descartes, and the fact that two, seemingly unconnected philosophers would both choose Descartes, out of the many figures in the tradition, speaks not only to the similarity in their thought concerning the tradition but also illuminates the powerful metaphysical authority that Descartes preside over.

Dewey sees the tradition as advancement, throwing off previously unfounded metaphysical concepts for new scientific worldview. This is no surprise considering Dewey’s Hegelian training. Heidegger sees the tradition as devolution, becoming more and more

⁸⁵ *ibid.*, 299

enframed by the control of mathematics and technology, as well as our misunderstanding of being. This difference between the two thinkers stands as one of the biggest points of departure when they turn from metaphysics to science. If one were to view the tradition through Dewey's eyes, one sees modern science, with its refusal to accept pre-established dogmas and its emphasis on method, as an unquestionable advancement over "classical science." In fact, Dewey points to the overcoming of metaphysical classification and categorization as one of the benchmarks of modern science. Heidegger on the other hand, sees the rise of modern science as a symptom of a much larger issue, namely the misunderstanding of being. Heidegger tells us, "With these three characteristics of modern science, that it is a factual, experimental, measuring science, we still miss the fundamental characteristic of modern science. The fundamental feature must consist in what rules and determines the basic movement of science itself."⁸⁶ The "fundamental feature" that Heidegger is referring to is mathematics, which, by its very nature, organizes and classifies that toward which it is directed. Heidegger argues science, at its very essence, is mathematical and therefore metaphysical. Nor did mathematics merely popup at the foundations of science, but has its roots in the tradition, particularly Descartes.

3.2 Substance and Subjectivity

The second area of comparison is substance and subjectivity. When thinking of metaphysics, most would probably not think of substance. After all, it seems to be true of our pre-philosophical intuition that one is not the same as the other; the dog is not his owner, the chair is separate from its surroundings, etc. Both Heidegger and Dewey recognized such beliefs as grounded in the metaphysical tradition that separates a subject from objects through the creation of the concept of substance.

⁸⁶ (MMM), 273

The metaphysical notion of substance is of something fixed and unchanging that defines the subject and places him or her in sharp contrast to other objects, which have different substances. As we have seen, Dewey's instrumentalism and Heidegger's phenomenology both reject substance. For Dewey, the notion of anything fixed and permanent is contrary to all epistemological evidence; the only thing one can be certain about is that things change. For Heidegger, the notion of substance reflects the traditional misinterpretation of being as noun rather than verb. In *Being and Time*, Heidegger redefines man, not as a substance or subject that is, but rather as Dasein, or There-Being, purposefully reflecting Dasein's being as an action. Dasein is because Dasein is literally doing something, is literally there within the world. Dewey reflects this exact sentiment in his natural empiricism, with its emphasis on the stimulus-response model.

Descartes serves as the perfect illustration for both thinkers philosophy of subjectivity. Rorty tells us, "Heidegger's claim, in *Being and Time*, that the neglect of *Zuhandensein* lies behind the Cartesian problem of the existence of the external world parallels Dewey's reiterated claim that 'the brood and nest of dualisms' which appeared in the seventeenth century was due to the initial split between the enduring object of contemplation and the malleable objects of the artisan."⁸⁷ Both thinkers see the establishment of the *cogito* as the acumination of a metaphysical tradition that insists on classification and separation. Nor can Heidegger's phenomenology and Dewey's instrumentalism accept an ontology that insists on separating one from the world. Rather, both insist on a philosophy that not merely includes a subject within a world of objects, but obliterates the concept on subjectivity and substance in favor of a wholly interrelated and interdependent existence, for both thinkers, one's relationship to the environment is primary, to the point that the subject is indistinguishable from the world. Both thinkers recognize the

⁸⁷ (OTH), 289

consequences of the metaphysical concept of substance as creating a subject-object split and therefore a path toward objectification.

While both thinkers view subjectivity and substance as arising out of the metaphysical assumptions of the tradition, they disagree around some key areas. For example, as we have seen both thinkers recognize the subject-object distinction, however, they draw different conclusions from the distinction. Heidegger sees the objectification of the world through the creation of the subject as another means of control; a reduction of one's environment to egocentrism, whereby everything that is not the subject is available to be interpreted and manipulated according to the subjects whim. Clearly, this is not a positive movement; rather Heidegger sees it as detrimental to our ontological standing in the world.

In contrast, Dewey does not see the subject-object distinction in the same terms. While it is true Dewey recognizes objectification as a symptom of metaphysical subjectivity, he does not see the control structure against which Heidegger rebels. Rather, one's environment is something to be controlled and manipulated, if only for the betterment of humanity. This places Dewey in direct contradiction to Heidegger, and seems to require a defense of Dewey against Heidegger.

Dewey's recognition of the subject-object split is a fundamental problem, because, like Heidegger, Dewey's ontology is one of deep interconnection to the world, and objectification destroys this primary state. However, for Dewey the environment is as much manipulating oneself as one is manipulating it. There is such a level of codependence that one cannot be said to fully manipulate his surroundings without simultaneously manipulating himself. For example, when one clear-cuts a forest, one has manipulated the environment, thus creating a situation, a stimulus that the human person must respond to, emotionally, mentally, or physically.

Therefore, there is never simply action against objects; rather the environment simultaneously

affects the “subject”. Thus, the use of nature, through science, for the advancement and betterment of mankind is not a result of objectifications as Heidegger argues. Rather, science, and its relationship to nature, is a means to transform the world for the better. As Dewey writes, “Nature as it already exists ceases to be something which must be accepted and submitted to, endured and enjoyed just as it is. It is now something to be modified, to be intentionally controlled. It is material to act upon so as to transform it into new objects which better answer our needs.”⁸⁸ This view is a direct result of Dewey’s deconstruction of subjectivity.

The differences between the two thinkers is clear on this point, one either embraces the Deweyan model and sees the deconstruction of subjectivity as a license to manipulate the environment, or one is with Heidegger and sees any form of manipulation of the environment as metaphysical, resulting in objectification and subjectivity and therefore ought to be overcome.

Both men deny the notion of subjectivity as an archaic metaphysical notion that results in objectification and control. However, Heidegger’s critique of subjectivity and substance is so deep, so fundamental and complete; that it appears to undercut even Dewey’s philosophy. For example, where Heidegger encourages an ecological view in which one immerses himself in his “world” wholly, so that the “ready-at-hand” experience is primary and preferred. Dewey on the other hand, wants man to emerge above his environment, not so much to be separated, for that is impossible, but to gain perspective on his role within it. Yet, this temporary separation from the environment appears to contradict Dewey’s deconstruction of subjectivity. For if one is to elevate oneself through the use and manipulation of the environment, there remains a fundamental acceptance of a subject, that is, of an *I* who is using *that* for such and such a purpose. Yet, this is only an apparent contradiction, in truth; Dewey’s instrumentality only can

⁸⁸ John Dewey “The Quest of Certainty” in *The Collected work of John Dewey: the Later Works., Vol. 4* (Southern Illinois Press, 1984), 80-81

emerge after the *I* is defeated. There is a self, adapting and using his surroundings, yet there is no substance defining or separating that self from his environment. Human consciousness may have evolved to the point that we can now take stock of our situation, but this in no way produces a subject in the traditional sense. Man is a part of nature ontologically, in his very being, that is, to exist is to be interrelated to one's world.

Thus, Dewey circumvents this criticism by arguing that there is no real separation because adaptation occurs to the self at the same time that the self uses the tools of the environment. To which Heidegger would respond that mankind's manipulation of the environment far exceeds the environments reciprocation. That while we build power plants on rivers, it is ultimately the discloser of the river that is manipulated, changed, and controlled; that the rivers discloser is fundamentally altered through the technology mankind erects. The revelation of being has been affected, not through the environments own devises, but rather the new discloser has be forced upon it. Yet, both see the death of the subject as introducing a new perspective of technology, one of fundamental interaction, free from subjective separation.

3.3 Science

What we have seen is that the most significant difference between Heidegger and Dewey in regards to science as it relates to metaphysics is the significance placed upon science. For Dewey, it is science that dictates the overcoming of metaphysics, while for Heidegger it is the overcoming of metaphysics that drives his views of science. Dewey saw science as the foundation and deconstructed metaphysics in its name. Heidegger saw the onto-ontological distinction as the foundation and thus places science in the same vain as metaphysics.

However, it should come as no surprise that some similarities emerge between the two's scientific views. First, they are similar when evaluating the role of philosophy against science.

As Rorty point out, both thinkers believe that there must be a separation between the *functions* of philosophy and science. “When they discuss the relation between philosophy and science, both men see Cartesian, Husserlian, and positivistic attempts to ‘make philosophy scientific’ as a disastrous abandonment of philosophy’s proper function.”⁸⁹ Both maintain that philosophy is not the opponent of science, competing for the most accurate epistemological vision of the world, but rather it is the role of philosophy to clear “away what impedes our delight, not as the discovery of a correct representation of reality.”⁹⁰ In other words, it is not philosophies role to unravel the movements of celestial bodies, rather that is the proper place of science.

Dewey sees the ancient worldview as relying upon a fixed and certain reality. Of course, as we have seen such a desire for permanence and fixity resulted from man’s psychological need to make sense out of a senseless universe. We have also seen the Dewey recognizes finite permanence as metaphysical and historical. He argues that this changes as we move into the modern period. In fact, Dewey sees this movement from metaphysical permanence to scientifically informed change as one of the distinguishing marks of modernity and, no doubt, as an advancement over the ancient world view.⁹¹

Heidegger disagrees with Dewey’s assessment. Where Dewey sees part of the advancement of science over metaphysics as the abandonment of concepts for experiment, Heidegger points out that, if viewed merely as the overcoming of concepts and observation, there is no difference between ancient and modern science.⁹² Writing, “The contrast between the ancient and the modern attitude toward science cannot therefore be established by saying, there

⁸⁹ (OTH), 291

⁹⁰ *ibid.*, 291

⁹¹ The world in which philosophers once put their trust was a closed world, and having definite boundaries externally. The world of modern science is an open world, a world varying indefinitely without the possibility of assignable limit in its internal make-up, a world stretching beyond any assignable bounds externally. (R), 31

⁹² One commonly characterizes modern science in contradistinction to medieval science by saying that modern science starts from facts while the medieval started from general speculative propositions and concepts...But it is equally undeniable that the medieval and ancient sciences also observed the facts and that modern science also works with universal propositions and concepts. (MMM), 271

concepts and principles, and here are facts.”⁹³ Furthermore, Heidegger would not accept Dewey’s argument that modern science is set apart through an emphasis on experimentation. Rather, Heidegger argues that our worldview is becoming more fixed and “mathematical” as a result of our emphasis on experimentation. For, according to Heidegger, when one prepares an experiment, one brings a preconceived “determination of the facts and a way of applying concepts”⁹⁴ This is due to modernity’s need to view everything through the calculating lens of mathematics, thus establishing a preconceived worldview in which “things” are classified, calculated, and measured prior to any experience with them. There are no new paths of thought established through modern science, only the reaffirmation of the old metaphysical desire to enframe, separate, and objectify; only now it this is done through the guise of mathematics.

Furthermore, Dewey wants philosophy to use science as its grounds of inquiry, tearing down the assumptions of the previous generations and reconstructing new thought based upon what science has revealed. Dewey writes, “When this step is taken the circle of scientific development will be rounded out and the reconstruction of philosophy be made an accomplished fact.”⁹⁵ Heidegger, on the other hand, sees philosophies desire to “measure up” to science as misguided and ultimately metaphysical. “...Philosophy has been in the constant predicament of having to justify its existence before the ‘sciences.’ It believes it can do that most effectively by elevating itself to the rank of science. But such an effort is the abandonment of the essence of thinking. Philosophy is hounded by the fear that it loses prestige and validity if it is not a science. Not to be a science is taken as a failing that is equivalent to being unscientific.”⁹⁶ These two views are diametrically opposed and as such can never be reconciled. Either one is with

⁹³ *ibid.*, 271

⁹⁴ *ibid.*, 272

⁹⁵ (R), 44

⁹⁶ Martin Heidegger, “Letter on Humanism,” in *Basic Writings*, ed. David Farrell Krell (San Francisco, CA: Harper Collins Publishers, 1997), 219

Dewey and sees science as the new grounds of philosophical inquiry, or one is with Heidegger and sees science as an obstacle, metaphysical in nature, that must be overcome for philosophy to truly come into its own.

Their particular views concerning technology demonstrate, once again, an irreconcilable difference between the two thinkers. As we have seen, Heidegger's philosophy of technology is one in which the "revealing" of the environment is contorted by the "enframing power" of technology and everything that is not technological is reduced to mere resources for technological use. Dewey would disagree with Heidegger's conception of technology, seeing it as naive and nihilistic. Dewey writes, "there is no greater sign of the paralysis of the imagination which an involvement in immediate detail can induce, than the belief, sedulously propagated by some who pride themselves on superior tastes, that the machine is itself the source of our troubles."⁹⁷ Rather, Dewey would see the proper use of technology as the outcome of scientific methodology and any misuse of technology as a mistake of mankind, not of technology itself, arguing, "it is hard to think of anything more childish than the animism which puts the blame on machinery"⁹⁸ It is the full use of our natural gifts and can be a means of improvement, not only for humanity but also for the environment. Thus, I contend that Dewey would be in complete agreement with Heidegger with regards to technology requiring a "standing reserve" only Dewey would not see this as bad. Rather, I believe Dewey technology is equally apart of our environment and as such is involved in our continuous game of adaptation. We are there to service the Power Station on the Rheine, yet at the same time, the power station serves us by providing services that doubtlessly improve the quality of our life.

⁹⁷ James Campbell, "Understanding John Dewey"(Chicago, Il: Open Court Publishing Company, 1995) 107 (Hereafter (UJD))

⁹⁸ *ibid.*, 107

CONCLUSION

So what are we to conclude from what has been learned? First, our original goal, to see if the seemingly similar philosophies of Dewey and Heidegger can be reconciled, now seems to be impossible. Despite quite similar views concerning the traditional emergence of metaphysics and the destruction of substance and subjectivity, as well as their similar views of primary correlation with one's surrounding environment and instrumentality, these similarities emerge out of principally separate philosophies.

The irreconcilable difference between the two becomes most evident when the discussion turns to science and technology. Heidegger's phenomenology explicitly rejects science as being essentially metaphysical, while Dewey's natural empiricism is buttressed by the scientific revelations of the day. Dewey is fully indebted to his time and his philosophy could never have arisen prior to Darwin and evolutionary theory. Where Heidegger rejects science as metaphysical, Dewey hails science as the great destroyer of the metaphysical tradition.

So who shall we side with? In truth, neither philosopher fully commits to his philosophy. Heidegger is wholly indebted to a metaphysical tradition that he desires to overcome. Indeed, just as Dewey is dependent upon the science of his time, Heidegger too could never have developed his philosophy without the misunderstanding of the ontological difference in the tradition. Page upon page of Heidegger is dedicated to demonstrating how words reflect a metaphysical essence. Remember Heidegger does not wish to completely destroy metaphysics, though he argues traditional metaphysics is incorrect, but to incorporate the history into a new path of thinking. As Rorty writes, "Heidegger's sense of the vulgarity of the age-its trivialization of everything holy- is strongest when what is trivialized is the history of metaphysics. For this history is the history of Being, and to make that history into a useful lesson for modern man is to make Being itself an instrument for our employment and an object of exploitation...to treat the

great philosophers as stepping stones, or to choose among them as we choose our favorite pictures, is to make a mockery of Being itself.”⁹⁹ Thus, without the metaphysical tradition, Heidegger’s philosophy would be flat mysticism; without his critique of the tradition as evidence of the misunderstanding of being, Heidegger’s ontology would probably closer resemble Dewey’s; striped down, bare bones instrumentality. Heidegger wishes to critique the tradition as a misunderstanding, yet wishes to use this misunderstanding as a tool for his philosophy. Heidegger does not fully commit to the overcoming of metaphysics because he needs the tradition. Heidegger even places himself within the tradition, arguing that his philosophy resembles the pre-Socratic notion of truth as unconcealment.

Because Heidegger does not wish to fully throw off the metaphysics of the past, he is still indebted to it and therefore his rejection of science and technology as metaphysical proves to be incoherent. He sees modern science as having a metaphysical essence and turns against it, yet at the same time he remains beholden to the metaphysics upon which it is based. To have fully rejected science and technology, Heidegger would have had to fully reject metaphysics. He does not and therefore does not fully commit to his own metaphysical critiques.

Dewey, however, fully accepts the rejection of metaphysics. There is no room for fixity and permanence in his thought, and as such a tradition that searches for such things has completely missed the point. If one were to do metaphysics in a Deweyan world, it is under a new definition of metaphysics, one that searches for contingency and change, and therefore does not resemble the impermeable systems of the past. This rejection of the metaphysical tradition is perfectly in line with Dewey’s philosophy of science, in fact, it is dependent upon it. Dewey’s rejection of metaphysics for science seems more honest, or at least more complete than

⁹⁹ (OTH), 299

Heidegger's rejection of science as metaphysical. Dewey does not need to cling to a past that he rejects because he has a replacement for its epistemology, science.

Heidegger would certainly disagree; arguing that Dewey's willingness to allow for the manipulation of the environment demonstrates his unwillingness to commit wholly to his own ontology of interrelation. When one uses science and technology to investigate and manipulate the environment, one is committed to a philosophy in which one is the objectifier, the subject, while everything else is merely a reservoir for study and use, or objects. Perhaps there is some truth to this, that when one studies a fish, one recognizes that the fish is not oneself, that one is a human, dissimilar to the plants, animals, and minerals that surround him.

Yet, I contend Dewey escapes this criticism. *Homo sapiens* are, fundamentally, part of nature, engaged in the continuous process of adaptation, stimulus, and response. The metaphysics of substance and subjectivity sought to separate man from the world by creating the notion that, despite the change that surrounds us, our personhood, our human essence remains unchanged. Dewey rejects this, so that now, any stimulus, or action performed in the environment must be accompanied by some response, no matter how minute. One cuts down a tree in the forest, one has manipulated his environment and has likewise responded to that manipulation, albeit the response is not immediately evident. There is no substance to resist change, thus every change is ubiquitous.

It is this very notion that allows for Dewey's philosophy of science and technology to escape Heidegger's critique. One is free to probe, produce, study, analyze and use one's environment because each affects the thing simultaneously affects oneself. Each scientific discovery, each technological advancement, is accompanied by a response, not just for humans, but for the whole environment.

Nonetheless, the interconnection of the environment also serves as a caution for our technological and scientific endeavors. Because our actions to the environment also fundamentally affect a response in us, we as a species must be mindful of our manipulation of our surroundings. In a post-metaphysical world, there is nothing preventing change, or nothing insuring this change is for the better. For, just as the cutting down of a tree for firewood leads to an environmental response, so the clear cutting of a forest also affects the environment in which we inhabit, and not necessarily for the better. When we destroy our world, we destroy ourselves. There is no substance separating us from our affects on the planet, nor are we an autonomous subject, independent of objects that we use. We, as a species, must be mindful that the destruction of our environment affects us in a destructive manner.

If there is ever to be reconciliation between Heidegger and Dewey's views, I believe it is here, with the knowledge that we are all children in the womb of the earth, forever tied to her umbilical cord, and that the death of our mother will lead to our stillborn death. The metaphysics of the past allowed for the excuse that reality was unchanging and fixed, that we could fully objectify, know it, and control it. Science in the post-metaphysical world does not have such a privilege, rather the responsibility of care falls directly upon those who wish to use the environment. Heidegger saw the use of technology as creating a vision of the world in which everything appeared as a resource, or standing reserve, to feed the technological giants. Dewey was a champion of technology, yet he certainly would have agreed that, in our modern world, if we continue to see ourselves in metaphysical terms, as subjects over and against our surroundings, then eventually we will have exhausted the resources of the environment. The post-metaphysical world, for both Dewey and Heidegger, is one of stewardship and care for the world in which we co-dependently reside.

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