

What a Long Strange Trip Its Been, or, The Metaphysics of Presence: Derrida and Dewey on Human Development

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What am I doing here? Well, what a long strange trip its been. Many interactions with diverse individuals is the philosophical answer whose metaphysics I explore later. Where does one begin when they recognize the arbitrariness of every beginning? Here is an incident. I spent two years as a junior investigator on a National Science Foundation grant in mathematical logic working with my former teachers Jim Macmillan and Jaakko Hintikka. The first philosopher of education I met besides Jim and Manny Shargel was Jim Giarelli. He was attending the South Eastern Philosophy of Education Society meeting where Macmillan and I read our first essay on the erotetic logic of teaching. I immediately liked Jim's attitude and ideas. I still see him standing there in the hallway with boots and beard, a memorable first interaction.

Early on, I wrote primarily analytic philosophy with Macmillan as we developed our erotetic theory. In those years, I also wrote essays on the phenomenology of Edmund Husserl and the methodology of Isaac Newton, but these interactions compose stories that do not carry me here. My interest in John Dewey emerged slowly; he was just a guy philosophers of education were expected to read. From the beginning, though, I read him differently. Eventually, I would write a book titled *Dewey and Eros* the first sentence of which claims that for better or worse, "You become what you love." *Eros* draws us toward persons, situations, things, and ideas. Macmillan drew me into education. Who he was drew me more than what he did. *Eros* in education goes at least as far back as Socrates. If ever there was a strange combination in PES, it was Jim and I, not that I am suggesting that Jim was Socrates, or I Plato. I loved the man much as good sons love fathers. Today I will talk about development as interaction and although my dry technical treatment of personal development as interacting individuality hides the erotic, it is always there.

So how did I get to the essay I am reading today? I cannot remember when I first met Mary Leach. There is a good chance it was in a hotel bar at a PES meeting. Initially, Mary made no special impression, though she was nice enough. Unlike Giarelli, there was not an immediate easy rapport to our interactions. She was different from me; worse, she was full of weird feminist and postmodernist ideas. In time, she became a special friend. Interactions with others even slightly different from us are often difficult; still, they are the ones that crack the seal of self-certainty around our closed and perfect worlds and let the light in.

Patty Lather invited Mary and me to write an essay with the demanding title of "Dewey after Derrida," for the fourth edition of the *Handbook Of Research On Teaching*. Here are some excerpts from my conclusion to that essay:

I realized the offer to co-author an essay titled "Dewey After Derrida" would pose a challenge. Initially, I assumed a simple division of labor. Mary would explicate and advocate

Derrida while I would do the same for Dewey. I thought it would be easy to show that Dewey's pragmatism is superior to Derrida's relativism. It did not work out that way. I was overwhelmed, and my understanding altered.

The proof that Dewey rejects the metaphysics of presence as stridently as Derrida is impressive. Deweyans will be shocked; I was. Eventually I argue the only real difference between Dewey's philosophy of reconstruction and Derrida's philosophy of deconstruction is where they put the emphasis in the construction-deconstruction-reconstruction cycle. Mary knows this cannot be right, so do I, now, but there is no more time for us to continue the conversation.

I have assimilated Derrida to Dewey in a way that de-emphasizes differences, and subtly gives Dewey the victory. Mary wants to preserve and accentuate the differences in hopes of having a more creative dialogue. Here is the most important thing I have learned thus far: It is not enough to tolerate the tensions of difference and alterity, one must learn to delight in the dance of difference and make meaning in the opening provided when we are open to the movements of the Other.¹

What a strange trip it was. I had the last words in that essay. Here are some of Mary's words right before mine:

It may be clear to the attentive reader that Jim's voice and my own do not come together in a cohesive or seamless whole. This writing cannot provide the reader an easy, unproblematic conclusion to any of the difficult issues raised by joint inquiry. My own effort in this was offered in the hope of finding a way to hold *open* the question of the relation between Dewey and Derrida so as to explore both the *possibility* of their coincidence and the *necessity* of their distinction. As I envisioned this "conversation," Derrida would introduce his own work to Dewey by acknowledging that his writing, indeed *all* writing including Dewey's own, is "double-bound." Any *radical* criticism necessarily produces words at war with themselves. They must struggle to exempt themselves from the very grammar in which they are caught up and by which they mean. Inevitably they are qualified, "written under erasure," hedged as Derrida does, with inevitable quotation marks. If writings (of radical ideas) emerge always within a history, they would subvert and take their sense from that history even as they would undo that history's claim to mastery over their sense making, these writings must necessarily employ tools, devices that Derrida refers to as "ploys of designification." Not only does Derrida work to exemplify the both/and, but also the neither/nor that is demanded in any exterior form of a critical rupture and a redoubling (see Derrida, 1978, p. 247). The moment we approach any philosophical notion no longer by thinking to refute it but by asking *how* it can be said, the ground shifts beneath the traditional arguments.

That Jim and I hold different views is no cause for alarm. Our controversies over interpretation is what "inquiry" is all about, and in my view, is symptomatic of the unstable and shifting moment in the current time of philosophical scholarship. That Jim and I do not agree but have written together *anyway* may serve to raise interesting questions for educational research on the authority of language, the "truth" of any text, the effects of writing and the excess produced that is not recuperable to one single judgment of meaning. We present an instance of contradictory interpretations that can perhaps agitate traditional notions of a writer, a reader, or a researcher isolated from subject positions, the histories, discourses and practices that constitute both philosophical thought and current educational imperatives.²

I have written on the danger and necessity of listening in democratic dialogues, so I admit I am not the first philosopher whose theory exceeds their practice. Today, I have asked Mary and Jim to join me so we may continue two of the most valued conversations of my professional career.

THE METAPHYSICS OF PRESENCE: DERRIDA AND DEWEY ON HUMAN DEVELOPMENT

The metaphysics of presence has dominated thinking in the West since the pre-Socratic philosophers. The most influential challenge to the metaphysics of presence is Martin Heidegger's *Being and Time*.³ Jacques Derrida frequently refers to

“the metaphysics of presence,” and carries out a sustained assault that surpasses that of Heidegger. Dewey did the same over a decade before Heidegger, and before publishing *Democracy and Education* in 1916, though no one noticed. If we do not comprehend Dewey’s comprehensive rejection of the metaphysics of presence, we fail to recognize the radical character of his thought and the hidden reason so many reject his educational philosophy.

Heidegger observes that in Western ontology, “Entities are grasped in their Being as ‘presence’; this means that they are understood with regard to a definite mode of time — the ‘Present.’”⁴ This is the metaphysics of presence, the doctrine that somehow we may come into the presence, the center, of eternal, immutable essence. Derrida concludes a consideration of centeredness and the metaphysics of presence with this comment:

[T]he entire history of the concept of structure... must be thought of as a series of substitutions of center for center.... The history of metaphysics... is the history of these metaphors and metonymies. Its matrix... is the determination of Being as *presence* in all senses of this word. It could be shown that all names related to fundamentals, to principles, or to the center have always designated an invariable presence — *eidōs, arche, telos, energeia, ousia* (essence, existence, substance, subject)... transcendental, consciousness, God, man, and so forth.⁵

Here Derrida provides us with most of the aspects of the metaphysics of presence we wish to consider. He also provides us with a hint as to why contemplating the rejection of that metaphysics is so disturbing.

So what comprises the metaphysics of presence? The primary concept is that of essence, or what the ancient Greeks called *eidōs*. Something’s *eidōs* designates its unique form, characteristic property, or basic nature that makes the entity what it is. *Eidōs* is the center of the metaphysics of presence, the ultimate explanatory principle of action; toward it, everything else converges. In what follows, I develop the metaphysics of presence from the perspective of Aristotle’s *Metaphysica*. I do so for two reasons. First, Aristotle’s theory of development assumes the metaphysics of presence. Second, Aristotelianism dominates most contemporary theories of development. Such theories assume ultimate centers of action such as I.Q., rationality, God’s design, or perhaps selfish genes that control human development. There is a hidden terror in rejecting the metaphysics of presence. If there are no fixed and final essences, then there is no fixed and final essence of Truth, Rationality, or Man. That, in fact, is Dewey’s disturbing position.

The next four aspects all center in the concept of *eidōs* and derive their meaning from their function in actualizing something’s essence. The first is *energeia*; the correlative concept of which is *dynamis*. *Dynamis* refers to something’s latent potential or power for change; it is something’s capacity to become its essence. *Energeia* refers to the actual activity, or act, as opposed to the potential. Aristotle understood *energeia* functionally as what something “by nature” is suited to do or be. *Energeia* functions to actualize a latent potential (*dynamis*) to achieve its full actualization. Achieving full actualization means that something achieves its essence. *Energeia* conjoins with *entelecheia* to yield the perfect self-actualization

of the entity. *Entelecheia* refers to a state of perfection; it is complete self-actualization. Again, the *eidos* is the state of completion toward which the development tends. *Energeia* and *entelecheia* are very nearly synonymous, and I will treat them as such. *Telos* refers to completion, end, or purpose; it also connects with *entelecheia*. The fully actualized essence (*eidos*) functions (*energeia*) to actualize perfectly the latent potential (*dynamis*) of an entity to achieve the perfect completion (*entelecheia*) of its *telos*. For instance, a normal, properly functioning acorn will necessarily develop into a giant oak. *Energeia*, *telos*, and *entelecheia* dominate the vast majority of developmental theories.

Related now, *ousia* refers to ultimate entity, subject, or substance. For Aristotle, the ultimate subject or substance is the *eidos* because something's essence makes it what it is. Still another important concept for the metaphysics of presence is that of the *arche* which refers to ultimate origins, foundations, or absolute first principles. Again, for Aristotle, something's essence is the ultimate origin of action and the foundation or first principle in the explanation of development.

In his philosophy Dewey either completely rejects or dramatically reconstructs every fundamental concept associated with the metaphysics of presence. His reconstruction has major consequences for his genetic analysis of human development. He rejects the metaphysics of presence in favor of a naturalism so prosaic and plainspoken it is difficult to notice that Dewey actually affects a decentering of the "Copernican revolution."⁶

Neither self nor world...nor nature (in the sense of something isolated and finished in its isolation) is the centre, any more than either earth or sun is the absolute centre of a single universal and necessary frame of reference. There is a moving whole of interacting parts; a centre emerges wherever there is effort to change them in a particular direction....Mind is no longer a spectator....The mind is within the world as a part of the latter's own ongoing process.⁷

For Dewey, human nature is a part of nature and the mind and the self are a participant in the flux of events, not on spectators. There is no absolute, eternal, and immutable center of existence, no absolute frame of reference, and no fixed context of action. There are only interactions among individual events.

Dewey carefully distinguishes existence from essence. This is an immensely important distinction. It is especially useful for theorists of development because it allows us to distinguish between antecedent existential events (the metaphysically given) and linguistically constructed meanings, or logically constructed essences *made* to be what they are. Here is how Dewey describes the relation between existence and essence:

Essence...is but a pronounced instance of [linguistic] meaning; to be partial, and to assign a meaning to a thing as *the* meaning is but to evince human subjection to bias.... Essence is never existence, and yet it is the essence, the distilled import of existence: the significant thing about it, its intellectual voucher.⁸

The subject matter of metaphysics is existence. The subject matter of inquiry and its logic is essences and identities. The assignment of any one essence to an individual human being, or group of such beings, is always the contingent product of culturally dependent inquiry.

So, one might ask, what connects existence to essence? Dewey's answer is straightforward:

[T]here is a natural bridge that joins the gap between existence and essence; namely communication, language, discourse. Failure to acknowledge the presence and operation of natural interaction in the form of communication creates the gulf between existence and essence, and that gulf is factitious and gratuitous.⁹

Essences emerge in the course of inquiry, in the constructive process of forming logical judgments. Similarly, an inquiry into human development involves a *constructive* process of forming judgments about the meaning and essence of human being.

Existence is like the event of natural grapes on the vine. Linguistic meanings are like the press that wrings juice from the grapes. Logical essences, the product of inquiry, are like distilled wine, the essence of the grape. All meanings and essences, including the essence of human being, *are the contingent products of constructive processes themselves subject to human need, interest, and purpose*. Dewey transfers most of the concepts found in the metaphysics of presence to the *lógos* active as language or logic (or inquiry into inquiry).¹⁰ Significantly, Dewey's destruction of Western metaphysics amounts to little more than doing for philosophy what Darwin did for biology.

A species is the ultimate ontological subject of evolutionary theory. The word "species" is also the Latin for the Greek word *eidos*. Dewey did for all essences what Darwin did for species. In "The Influence of Darwinism on Philosophy," Dewey concludes that for classical, and much of modern, philosophy, "The conception of *eidos*, species, a fixed form and final cause, was the central principle of knowledge as well as of nature. Upon it rested the logic of science."¹¹ After Darwin, Dewey insists elsewhere, "natural science is forced by its own development to abandon the assumption of fixity and to recognize that what for it is actually 'universal' is *process*."¹² He recognizes the determination of *telos* by *eidos* when he states that "the classic notion of species carried with it the idea of purpose."¹³ Traditionally, most assume the *telos* of inquiry is knowledge of eternal, immutable essence, including the essence of Truth itself. The development of knowledge, in other words, assumes the same metaphysics of presence as biological development.

Estimates are that 99% of all species that have ever existed are now extinct.¹⁴ Dewey's neo-Darwinian insight is to realize that what holds for biological forms or essences also holds for linguistic meanings and logical forms as well. Dewey insists that "even the solid earth mountains, the emblems of constancy, appear and disappear like the clouds....A thing may endure *secula seculorum* and yet not be everlasting; it will crumble before the gnawing tooth of time, as it exceeds a certain measure. Every existence is an event."¹⁵ For Dewey, individual events have no *antecedent* fixed meanings or essences; instead, meaning and essence emerge as a *consequence* of linguistic and logical interaction between human beings and the rest of nature.

Events are not substances (*ousia*), so they do not have simple locations in time or place. Dewey insists that "events, being events and not rigid and lumpy substances, are ongoing and hence as such unfinished, incomplete, indeterminate."¹⁶

We are especially interested in the events involved in human biological and social development. When Dewey finishes reconstructing *eidos*, it is not only a stridently temporal and completely contingent concept; it is also no longer in the metaphysical domain.

Dewey's strategy involves draining the swamp of Western metaphysics into the basin of the *lógos*, that is, language or logic, until it is fit for human habitation. The following passage drains off a great deal: "Philosophy forswears inquiry after absolute origins and absolute finalities in order to explore specific values and the specific conditions that generate them."¹⁷ All theories of development should do the same. There is no ultimate metaphysical beginnings (*arche*) or endings (*telos*) in Dewey's naturalistic Darwinian world. So the question, how did Garrison get here has no ultimate answer, it depends on who wants to know, if anyone, and why.

In his 1915 essay, "The Subject-Matter Of Metaphysical Inquiry," Dewey begins to consider the prospects for metaphysics once all of the constituents associated with the metaphysics of presence have undergone reconstruction or been discarded. He turns the reconstructed constituents over to language, the sciences or other forms of inquiry, and logic (inquiry into inquiry). He announces the results of his survey near the end of his essay:

I am not concerned to develop a metaphysics; but simply to indicate one way of conceiving the problem of metaphysical inquiry as distinct from that of the special sciences, a way which settles upon the more ultimate traits of the world as defining its subject-matter, but which frees these traits from confusion with ultimate origins [*arche*] and ultimate ends [*telos*] — that is, from questions of creation and eschatology [*entelecheia* or *energeia*].¹⁸

Dewey thinks it is possible to say something about existence at large beyond the specific sciences and logic. He is drawing a careful distinction between the subject matter of the sciences or their logic and the subject matter of metaphysics.

Dewey thinks we should understand questions regarding *arche*, *energeia*, *telos*, *entelecheia*, *ousia*, and others in terms of their *functioning* in the *lógos*, either language or logic, while relinquishing their metaphysical connotations entirely. Dewey notes, "Hence it may be said that a question about ultimate origin or ultimate causation is either a meaningless question, or else the words are used in a relative sense to designate the point in the past at which a particular inquiry breaks off."¹⁹ All of the other familiar concepts found in the metaphysics of presence may either be substituted for "origin" or "causation" in this passage, and thereby given the same contextualized scientific or logical meaning, or simply eliminated from the philosophical lexicon. What about the metaphysics Dewey does consider? He writes here:

I wish to suggest that while one may accept as a preliminary demarcation of metaphysics from science the more "ultimate traits" with which the former deals, it is not necessary to identify these ultimate traits with empirically original traits — that, in fact, there are good reasons why we should not do so.²⁰

The question is, are there any "irreducible traits" of all existence sure to turn up in every domain of inquiry? Dewey thinks the answer is yes, so he states,

In all such investigations... we find at least such traits as the following: Specifically diverse existences, interaction, change.... 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.²¹

These simple ideas, diverse existence, interaction (later transaction), and change do not seem a very promising beginning to a revolutionary new way of thinking about developmental theory, much less metaphysics, but they are.

If there are no intrinsic essences, no final *entelecheia*, no ultimate *arche*, and no ultimate *ousia* anywhere, then there is no ultimate essence of human being. There are no intrinsic principles or self-acting fixed centers that guide development. There is no such thing as ultimate I.Q., rationality, free will, or self-possession. There are no immaterial souls, but then there are no selfish genes either. Nor are there culturally independent criteria of “normal” development.

Offered here as further substantiation, Dewey begins his amazing essay, “Time and Individuality,” with some reflections on the human needs noted earlier that are satisfied by classical, and most of modern, metaphysics:

It was not then for metaphysical reasons that classic philosophy maintained that change, and consequently time, are marks of inferior reality, holding that true and ultimate reality is immutable and eternal....The grounds for the belief are couched in the technical language of philosophy, but the cause for the grounds is the heart's desire for surcease from change, struggle, and uncertainty. The eternal and immutable is the consummation of mortal man's quest for certainty.²²

In an ever-changing world, we desire something eternal, immutable, and indubitable to provide security. For instance the essence of *Truth, Rationality, or God*. Usually this quest is completed in some supernal realm beyond space, time, and change. Dewey realized that, “Fixed laws which govern change and fixed ends toward which changes tend are both the products of a backward look, one that ignores the forward movement of life.”²³ In this regard, developmental theories as diverse as Jean Piaget's cognitive stage theory, ethological theory, information processing theories, most social learning theories, and others are fundamentally the same.

Change, evolution, and time are the consequences of interactions among diverse existences. The existence of *unique* individuality is, therefore, a crucial concept in Dewey's theory of changes involved in development. Dewey's most common example of individuality is human individuality:

Take the account of the life of any person, whether the account is a biography or an autobiography. The story begins with birth, a temporal incident; it extends to include the temporal existence of parents and ancestry. It does not end with death, for it takes in the influence upon subsequent events of the words and deeds of the one whose life is told. Everything recorded is an historical event; it is something temporal....[It] is an extensive event.²⁴

The particular individual Dewey chooses as an example is Abraham Lincoln. Any individual is a unique product of prior physical, social, and cultural interactions. As a product of biological interactions (for example, mating), they inherit genes that individuate them as a unique, one-time-only individual in the history of cosmos. Even if two biological beings could share exactly the same biological inheritance, they cannot occupy the same identical durational-extensional expanse, so their differential experiences soon render them unique. Experience for Dewey is just our interactions with other physical, biological, and cultural individuals: “Experience occurs continuously, because the interaction of the live creature and enviring conditions is involved in the very process of living.”²⁵ Cultural interactions,

especially those involving social individuals, are, for example, crucial to the emergence of the mind and self. Culture has us before we have it.

To continue, "Genuine time," Dewey writes, "if it exists as anything else except the measure of motion in space, is all one with the existence of individuals as individuals."²⁶ For example, Lincoln "did not just exist in a time which externally surrounded him, but time was the heart of his existence."²⁷ This statement is true because each individual becomes what they experience, their interactions with diverse environing conditions. Dewey states the obvious conclusion bluntly, "Temporal seriality is the very essence, then, of the human individual... Lincoln as an individual *is* a history."²⁸ Individuals of all kinds are not *in* time; their interactions with other individuals *are* time. This insight has the power to revolutionize our thinking about time, evolution, and development, including theories of human development. There are many barriers to thinking of time this way; the myth of flux is perhaps the greatest. Let us begin to struggle with it here.

We often think of time as a flowing Heraclitean stream. D.C. Williams called this conception of time "the myth of passage."²⁹ Motion in space is motion with respect to time (for example, rate of motion equals feet per second). The motion of time, though, cannot be motion in time with respect to time (for example, rate of motion, or flux, equals seconds per what?). Time, we might suppose, must move with respect to something; call it hypertime. The motion of hypertime would then be with respect to hyper-hypertime, and so on *ad infinitum*. The myth of passage breaks down. Time does not flow; rather events are constantly interacting, constantly changing. Time is not a flowing substance (*ousia*); it is a *function* of interacting events, or those durationally-extensionally contracted events we call "objects" or "persons." Dewey dismisses the notion that time is like an empty space filled by events. Time is no more than that it is some "thing," some substance. Dewey concludes: "Time as empty does not exist; time as an entity does not exist. What exists are things [inter]acting and changing."³⁰ Time is an interaction among diverse individuals, including those objects, entities, and so on, eventuating in human experience as the products of linguistic and logical processes. We are most interested here with time as it concerns the interactions characterizing individual human development.

If we can get over the notion that time is some sort of homogenous flowing substance, then we are a long way toward appreciating the connections among diverse individuals, interaction, change, evolution, and development. Dewey believes that if we ever fully recognize these relations, then we will acknowledge that time involves change and change involves transformation. He thinks two major implications arise from such a transformational understanding of time and individuality. Dewey writes,

First and negatively, the idea... is excluded that development is a process of unfolding what was previously implicit or latent. Positively it is implied that potentiality is a category of existence, for development cannot occur unless an individual has powers or capacity that are not actualized at a given time.³¹

Dewey reconstructs the metaphysical notion of potential while rejecting the notion of "latent" potential (*dynamis*). He realizes it is impossible to account for

change without the notion of potential. Potentiality, for Dewey, is not passive, however; rather, it is the *active* power to change, to evolve, and to develop. Every actual individual has potential and may change and develop, but only in interaction with *other* equally unique individuals. Further, just as diversity is the key to biological survival and growth, so difference is the key to cultural survival and growth. The neo-Darwinian knows, for example, that the racist is simply wrong.

Because of the uniqueness of individuals, we cannot specify the potential of a novel interaction until *after* the event:

When the idea that development is due to some indwelling end [*energeia, telos, or entelecheia*] which tends to control the series of changes passed through is abandoned, potentialities [*dynamis*] must be thought of in terms of consequences of interactions with other things. Hence potentialities cannot be known until after the interactions have occurred. There are at a given time unactualized potentialities in an individual because and in as far as there are in existence other things with which it has not as yet interacted.³²

Potentiality is not an antecedently existent, passive principle of self-action, rather it is a consequence of dynamic interaction. When two events interact, the actualized in the one event actualizes the potential in the second and the actualized in the second event actualizes the potential in the first. Remember our old friend the acorn. We usually assume “normal” acorns become oak trees (their *eidos*), a fine instance of believing in a self-acting entelechy or immanent telos. In fact, acorns may just as easily become stored for food in winter, such a interaction is perfectly normal; potentiality is as fully actualized in this interaction as in the acorn becoming an oak tree. To become an oak tree the acorn must engage in many interactions that include soil, nutrients, sunshine, atmosphere, and water (while avoiding interactions with such events as squirrels). What the developmental potential of the acorn is, we can never know for sure until *after* the interaction.

There is an obvious analogy between acorn development and human development. This analogy discloses the deep flaw in such deterministic, reductionist, and materialistic principles of self-action as selfish genes, neural centers, or I.Q. Such principles provide the naturalistic biological basis for development that is necessary, but not alone sufficient. Besides many important physical and biological interactions, cultural interactions (including other persons, language, tools, institutions) also contribute to what or who an individual becomes. This is not to say that there are no actual physical biological limits on any given occasion, but it is to say that what those limits signify is a matter of cultural meanings, beliefs, and values, and are constantly evolving. What the individual becomes depends on the interactions she or he enters into. Interacting with Jim Macmillan and Jim Giarelli, Manny, Mary, Jaakko, and many of you in the audience today have made me who I am; I have enjoyed the trip.

1. Jim Garrison and Mary Leach, “Dewey After Derrida,” in *Handbook of Research on Teaching*, 4th ed., ed. Virginia Richardson (New York: Macmillan, in press).

2. *Ibid.*, 27.

3. Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (1927; reprinted, New York: Harper and Row Publishers, 1962).

4. *Ibid.*, 47.
5. Jacques Derrida, *Writing And Difference*, trans. Alan Bass (Chicago: The University of Chicago Press, 1978), 279-80.
6. John Dewey, "The Quest for Certainty," in *John Dewey: The Later Works*, vol. 4, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1984), 229, 230, 232, 235, 238, 245.
7. *Ibid.*, 232.
8. John Dewey, "Experience and Nature," in *John Dewey: The Later Works*, vol. 1, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1981), 144.
9. *Ibid.*, 133.
10. *Lógos* for the ancient Greeks meant word, speech, discourse, ratio, proportion, or later on, discursive rationality. *Lógos* as discursive logic that is, categories, concepts, rules of right thinking, and the rest only comes late in classical Greek thought. It is not firmly in place before Aristotle discovers the syllogism and uses it to replace the "dialectic" of his *Topics*. *Lógos* is primarily a dialogical concept, although there is a very ancient meaning of *lógos* as "gathering," or "to gather."
11. John Dewey, "The Influence of Darwinism on Philosophy," in *John Dewey: The Middle Works*, vol. 4, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1977), 6.
12. John Dewey, "Reconstruction in Philosophy," in *John Dewey: The Middle Works*, vol. 12, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1982), 260.
13. Dewey, "The Influence of Darwinism on Philosophy," 8.
14. See S.P. Parker, ed., *McGraw-Hill Encyclopedia of Science & Technology*, vol. 6, 7th ed. (New York: McGraw-Hill, 1992), 57-58.
15. Dewey, "Experience and Nature," 63.
16. *Ibid.*, 126-27.
17. Dewey, "The Influence of Darwinism on Philosophy," 10.
18. John Dewey, "The Subject-Matter Of Metaphysical Inquiry," in *John Dewey: The Middle Works*, vol. 8, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1979), 13.
19. *Ibid.*, 5.
20. *Ibid.*, 4.
21. *Ibid.*, 6.
22. John Dewey, "Time and Individuality," in *John Dewey: The Later Works*, vol. 14, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1991), 98-99.
23. *Ibid.*
24. *Ibid.*, 102.
25. John Dewey, "Art as Experience," in *John Dewey: The Later Works*, vol. 10, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1987), 42.
26. Dewey, "Time and Individuality," 112.
27. *Ibid.*, 102.
28. *Ibid.*
29. D.C. Williams, "The Myth of Passage," *Journal of Philosophy* 48, (1951): 457-72.
30. Dewey, "Art as Experience," 214.
31. Dewey, "Time and Individuality," 109.
32. *Ibid.*