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## Searching for the Grand Narrative: David Sloan Wilson's Passionate Plea for an Evolution-Based Unification of Disciplines

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A review of: *The Neighborhood Project: Using Evolution to Improve my City, One Block at a Time*. By David Sloan Wilson. Little, Brown and Company, 2011. ISBN: 978-0316-03767-9

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One of the most important insights of Evolutionary Psychology (EP) is that the mind is not a unified system operating on principles of associative learning. It is, rather, a multifarious system of subsystems, each operating with its own unique logic (Barkow, Cosmides, & Tooby, 1992). The reason behind this design is simple: The environment presents the human organism with a variegated parade of problems and what works on one often fails on another. Put simply, you can't open a bottle of wine with a hammer and you can't drive a nail with a corkscrew (at least, not without considerable effort and frustration). In human terms, interacting with strangers requires a different emotional logic from interacting with romantic partners. Deploy the wrong logic and you might kiss a stranger or radically alienate and offend your partner.

Academic disciplines follow this pattern. Different areas of study require different tools. If you want to study the motions of the planets, you had better learn mathematics. Upon the other hand, if you want to study literature, mathematics will not get you very far. This seems practical and understandable, even if it does lead to a proliferation of academic languages that often become impenetrable to outsiders. It does, however, provoke important epistemological and pedagogical questions. Is nature really broken into discrete units that require different methods of knowing? And how much should educational practices reflect this? For simplicity, the answers to these questions can be imagined along a continuum. At one end, there are those like Jerry Fodor (1974, 1998) who argue that nature requires multiple levels of understanding and that attempts to unify knowledge are probably doomed to failure. On the other end, there are those like E.O. Wilson (1998) who argue that nature requires a unified and interlocking set of theories and that we should strive to unify all knowledge (What I will call the "strong unification hypothesis"). David Sloan Wilson falls close to the E.O. Wilson side of the continuum and has passionately striven to unify educational practices, creating an interdisciplinary program of Evolutionary Studies (EvoS), with the stated desideratum of unifying the "islands of the Ivory Archipelago" (D.S. Wilson, 2007) by using the inherently multidisciplinary theory of evolution by natural selection.

There is an apparent irony here. Many of those who accept at least the general outline of the EP theory of the mind, as E.O. Wilson and D.S. Wilson do, also very enthusiastically support the idea that knowledge should (can) be unified. But perhaps this irony is more apparent than real. Perhaps there is a theoretical perspective that can unify our understanding of the world of living phenomena in the same way that EP can unify our understanding of the human mind. Perhaps. Much of the ultimate success or failure of D.S. Wilson's new book *The Neighborhood Project* hinges upon the answer to this question.

*The Neighborhood Project* is, first and foremost, an encomium to science, a passionate and personal defense of our society's most popular (and controversial) narrative. D.S. Wilson's view of science, however, is very far from the cold and impersonal system that many have accused of dispelling meaning from modern society: "For me, science is a medium for listening and reflecting on the human condition, much like religion and literature" (D.S. Wilson., 2011, p. 5). Of course, whether or not one enjoys Wilson's description of science will depend on one's sensibility; it is, however, refreshing to experience Wilson's contemplative view of science. Furthermore, Wilson is less combative than many popular scientific writers, going so far as to confess, "I'm even comfortable calling science a religion that worships factual reality as its god" (p. 25). Such a sentence would be anathema to many scientists, but it gives Wilson's book a candidness that is unique and enjoyable. This tone of tolerance and fairness also allows one to enjoy *The Neighborhood Project* while disagreeing, as I do, with its basic argument.

If it is science in general that Wilson lauds, it is the theory of evolution by natural selection in particular that he praises for its ability to unify disparate academic disciplines and concerns. Wilson, however, doesn't just argue that evolution can help unify various disciplines; he contends that it is *necessary* to fully understand anything of human interest. For Wilson, the logic behind such a bold claim is simple. We are the products of evolution, therefore "If we don't use the tools of evolutionary theory to reflect on a Darwinian world..." (p. 162) we are confined to a limited or confused understanding. At first, this logic seems unassailable; but it becomes clear that it rests upon a fundamental confusion: it conflates two separate points. There is, first, the question of human flexibility and responsiveness to environmental input (we are products of evolution, so we are not infinitely flexible); and there is, second, the question of how necessary an understanding of natural selection is to a particular intellectual pursuit. Wilson, however, argues that, "All true [about flexibility], but it becomes wrong when it leads to the conclusion that we have mysteriously become liberated from evolution, that we can understand and improve the human condition without any knowledge of evolution" (p. 127), as if the first point ineluctably leads to the second. Taken literally, Wilson is asserting that Shakespeare, Goethe, Keats, Jefferson, and Paine, to name a few, could not understand nor make recommendations for improving the human condition. Of course, Shakespeare (to take one case) had a profound understanding of the human condition, although he was entirely ignorant of the theory of evolution by natural selection. Since I fully believe that Wilson would endorse this assertion, my suspicion is that the answer to the unified versus specialized sciences falls closer to the middle of the Fodor, E.O Wilson continuum than *The Neighborhood Project* seems to assume.

Consider a simple example. I used to catch toads (*bufo americanus*), put them in aquariums, feed them insects, and sedulously observe their behavior. After many months of observation, I became fairly competent at predicting their reactions to a variety of environmental stimuli. Later, I learned the basic tenets of evolutionary theory and I even read articles about the structure of a toad's visual system. I could not more accurately predict how a toad would behave, but I could provide sophisticated reasons for *why* it would behave as it did. In other words, the world is composed of many levels of organization (as D.S. Wilson passionately argues), and one level of organization can often be understood on its own terms without knowledge of underlying levels. One can understand the physics of a curveball, for example, without understanding a single thing about subatomic particles; likewise, one can understand many things about humans and the human condition without knowing about genetics or evolution. This does not mean that an interdisciplinary approach should be avoided or discouraged. In fact, I think it should be positively encouraged because it leads to a more comprehensive knowledge of the world—sometimes, it even leads to cases of complete integration (chemistry to physics, for example). It does mean, however, that hyperbolic claims, like the ones D.S. Wilson tends to make, are misguided.

Much of Wilson's research, as presented in the book, for example, follows this pattern: knowledge of evolution provides clues about *why* but not a lot about *what*. The book is loosely structured around this research, although it often meanders, slowly unfolding a basic story while supplying many tangentially related details. The basic story, as the title suggests, is the Neighborhood Project—specifically, the Binghamton Neighborhood Project (BNP). The BNP is a multidisciplinary attempt to understand and improve a human city. The concept of the BNP evinces Wilson's chief strength as a researcher: his willingness to study new and interesting subjects without stultifying allegiance to typical academic boundaries. As presented in the book, it also appears to support my contention that the strong unification hypothesis is incorrect.

A city is, as Wilson notes, an amazing testament to human cooperation. Cities work when cooperation is maximized; and cities fail when cooperation breaks down. Wilson's goal, therefore, is to understand how and why cooperation works and fails in urban environments. From a Darwinian perspective, of course, cooperation has always been something of a puzzle. In the 60's, evolutionary theory had come to a gene-centered view of evolution. Genes, not individuals or groups, were the currency of evolutionary success (Williams, 1966). A theory of cooperation had to adhere to this logic. W.D. Hamilton (1964) and Robert Trivers (1971) offered gene-centered theoretical attempts to explain cooperation, but many researchers remained unconvinced that they told the entire story. Wilson, for example, has famously argued that modern evolutionists need to take the theory of group-selection seriously (see Sober & Wilson, 1998, for example).

It should not be surprising that Wilson does not solve the puzzle of human cooperation in *The Neighborhood Project*—he has addressed that question more forcefully elsewhere. I cannot possibly go over all of the research Wilson covers, but one concrete example should be instructive. Wilson and his research team gave Binghamton High School students an experimental economic game. A student was paired with another student and given the choice to cooperate or not. If both

cooperated, both received 30 dollars; if both failed to cooperate, both received 15 dollars; and if one cooperated and the other did not, the cooperator got 45 dollars and the noncooperator got 10 dollars. This provided interesting data that Wilson explicates admirably. Then he goes over a second version of the game. All of the details are the same, except that the students were shown pictures of the neighborhoods where they, including their partners, came from. Unsurprisingly, this had a large effect on the students' cooperative behavior. Specifically, if a student was paired with a student from a nice neighborhood (as assessed by the students), he or she was much more likely to cooperate on the first move; and if the student was paired with a student from a blighted neighborhood, the student was much less likely to cooperate (pp. 154-163).

Wilson makes much of this result, calling it "astounding" (p. 161; to be fair to Wilson, he later notes that one might consider the result "obvious" p. 161) and forwards an evolutionary explanation. Organisms, he notes, have evolved to assess the safety of their environment and to "proceed cautiously or with confidence accordingly" (p. 161). As students are humans are organisms, they are no different, and it therefore makes sense that they would hesitate to cooperate with someone from a blighted neighborhood. Wilson's reasoning is plausible; the problem is, similar results have been discussed for many years and one could just as easily explain them, at least partially, using J.Q. Wilson and Kelling's "broken windows theory" (J.Q. Wilson & Kelling, 1982). The only addition *The Neighborhood Project* makes to this analysis is a limited but plausible post-hoc explanation for *why* this pattern of cooperation and noncooperation would occur. A grand theory of cooperation is offered in outline in a chapter on wasp behavior that D.S. Wilson alludes to throughout the text, but the details are thin, and much of the book consequently suffers.

My own hunch is that the answer to the puzzle of human cooperation is closer to Trivers than to D.S. Wilson. To my mind, the key to understanding human cooperation is understanding human social status. I call this the "status exchange theory" of cooperation. In short, humans cooperate in exchange for gains in status, which is, in a very real sense, a form of reciprocal altruism (more diffuse, however, than a simple tally of favors). In a community where cooperation and civility are lauded (given status) and noncooperation and incivility are punished (deducted status), individuals should be more likely to cooperate *because it increases their status*. Interestingly, if the general outline of this is at all correct, it *would* offer a fairly integrative understanding of cooperation that would be useful for understanding and improving cities. *The Neighborhood Project*, however, does not address other possibilities for the evolution of cooperative behavior. I believe that D.S. Wilson left much of this background out of the book on purpose—perhaps because he has addressed it elsewhere—, but it would have been useful to the average reader, and it would have made the book more exciting and interesting to scholars.

Although much of one's judgment about the academic success of *The Neighborhood Project* hinges upon one's position on the unification problem, the book is replete with stories and details that should be compelling to most readers. Wilson fills the pages with personal anecdotes, biographical details, scientific experiments, philosophical ideas, and manages to thread them together into a coherent, if not always tightly constructed, narrative. The book begins

philosophically, illustrating Wilson's general view of science—a view that, as noted, is laudably ecumenical. It then discusses the connection between evolution and cities, which, Wilson notes, might seem tenuous. Wilson argues that there once was a nearly impenetrable divide between many academic research areas and argues that such a divide is gradually dissolving. EvoS is Wilson's own attempt to dissolve the divide and to create a more synthetic learning environment for students. And from this synthetic point of view, applying evolutionary theory to the study of a city is quite appropriate.

Wilson then takes the reader through a brief history of Binghamton, which succeeds in piquing interest for what is to come. After, he introduces the two parables: the strider and the wasp. The strider illustrates the evolutionary path of solitary brutishness; the wasp, the evolutionary path of cooperation. Is a city more like a collection of striders selfishly searching for their own needs or a colony of wasps collectively carrying out their business? Wilson slowly unfolds the answer (s) to this question through a series of studies that he introduces in different chapters. In between, he introduces more perspectives. For example, he has a chapter that discusses the ideas of Pierre de Chardin, particularly de Chardin's notion of the noosphere, or the sphere of consciousness, a sphere that de Chardin believed allowed the earth to reflect upon itself. This chapter illustrates one of Wilson's greatest strength as a writer and thinker: the ability to recognize the importance of old ideas and to fit them into the language of new theories—which is, incidentally, another reason to suspect that the strong unification hypothesis is incorrect. Wilson also attempts to grapple with faith and reason and to synthesize them in a plausible and interesting way. Whether or not he accomplishes this goal probably depends upon one's attitude toward religion--friends have told me "there is no reconciliation"; I usually disagree--but Wilson's attempt is courageous and respectable.

*The Neighborhood Project* covers a lot of ground. After his discussions of spirituality and science, Wilson covers prevention science and education. These discussions are interesting and display Wilson's synthetic style of thinking. Some will find fault with some of Wilson's opinions and exegeses—his presentation of Hernstein and Murray's *The Bell Curve* seems unfair to me, for example—but there is no doubt that Wilson does a tremendous job of introducing the reader to a number of interesting and important research programs and data. Wilson also weaves information that was introduced in earlier chapters (data on Halloween and Christmas decorations, for example) into his unfolding tapestry and expands upon it. Each chapter, then, can be seen as a leitmotif that returns and is subtly changed in accordance with new themes. Wilson appropriately ends the book with a chapter that connects all of the themes, noting that the BNP will construct a "nervous system" for Binghamton (pg. 383), turning it into more than a metaphorical organism, and allowing it to reflect upon itself (in a similar manner to the noosphere according to de Chardin). Although some might find Wilson's rhetoric more poetic than literal, I enjoy this sentiment and it does a good job of tying together the many themes covered in previous chapters.

I have been fairly critical of the general thesis of *The Neighborhood Project*, but the book has a certain charm to it. D.S. Wilson has accomplished many praiseworthy things, including the introduction of EvoS to his university (Binghamton), and *The Neighborhood Project* offers his personal perspective on the

importance of a uniquely integrated approach to academics. Although I disagree with a strong unification hypothesis of science, I do believe that integration is desirable and that everyone with a desire to understand the world should be introduced to a study of evolution. Many younger scholars (like myself) take it for granted that all things human can and should be approached from multifarious disciplinary lenses, and that is a testament to the concerted efforts of scholars like D.S. Wilson who laid the institutional and ideological groundwork for multidisciplinary academic approaches. Instead of arguing that one *needs* to understand evolutionary theory to understand the human condition, however, D.S. Wilson would be better served by sticking to highlighting how interesting and enjoyable a multidisciplinary approach is.

*The Neighborhood Project* is a little desultory in exposition and some of the information it presents can only be superficially covered. Nevertheless, one searching for an integrative account of evolutionary theory, an account that steps outside of traditional academic boundaries, will find much to enjoy in this book.

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