The Neighborhood Project: Using Evolution to Improve My City, One Block at a Time.

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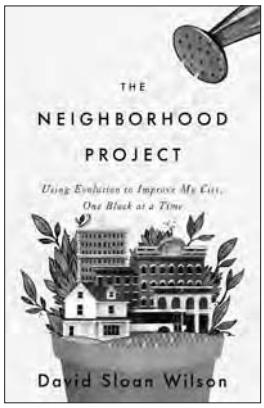
MASTERING NATURAL SELECTION TO SHAPE A HUMAN SUPERORGANISM

The Neighborhood Project: Using Evolution to Improve My City, One Block at a Time. David Sloan Wilson. Little, Brown and Company, 2011. 448 pp. $25.99 (ISBN 9780316037679 cloth).

David Sloan Wilson's latest book, *The Neighborhood Project: Using Evolution to Improve My City, One Block at a Time*, is many things. It is an account of the genesis and early development of the ongoing Binghamton Neighborhood Project (BNP), offered as an inspirational metaphor and a model for academics who want to engage in improving the neighborhoods and cities where they live. It is a personal offering of an evolutionary biologist's efforts to make his own work relevant to his city and the world. It is a collection of stories illustrating the diverse life pathways of people engaged in science (evolutionary or otherwise) and in other ways of making a difference in our world. The book also contains a set of parables drawn from evolutionary studies of the lives of other organisms in an attempt to illuminate our own social lives and culminates in actual "commandments" designed to initiate new behavioral norms. These reformed behaviors are supposed to let us take control of our own evolutionary processes and guide us toward becoming more "virtuous" prosocial group organisms exhibiting cooperation on a planetary scale. In the midst of these ambitious goals, *The Neighborhood Project* is also a curious revival of the long-forgotten and abandoned ideas of the spiritual biologist Teilhard de Chardin and of B. F. Skinner's radical behaviorism. Ultimately, this volume is another brick in Wilson's ongoing project to build an alternative understanding of human social evolution through his particular lens of group-level selection as a driving force of evolution that overrides individual-level selection.

Thus, *The Neighborhood Project* is an ambitious mix of many elements pulled together to service a grand vision. It contains an anthology of well-told stories arranged on a scaffolding that is meant to support nothing short of an inspirational shining city on a hill, where evolutionary biology gives us the tools to control our collective destiny. Wilson is an unusual scientist in that he professes his own humanistic atheism but does not shy away from assuming the mantle of leading us on this spiritual—even religious—quest. He would take us down a new path that is informed by the religion of naturalistic science in order to transform human society from its current state of disparate groups of individuals engaged in the struggle for existence into a superorganism engaged in planetary cooperation. That is what his vision of evolutionary biology has revealed to him about human nature.



Psychologist Abraham Maslow (1966) famously observed, "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." In similar fashion, Wilson repeatedly invokes evolutionary biology in order to understand everything in the realm of human society. Is this the only tool we have to examine our world? No, but Wilson is convinced that it can—and must—transform the thinking of everyone from every discipline who aims to understand humanity and solve its problems. More important, this conviction has motivated him to initiate a number of practical efforts that will put the idea to the test in the real world. This application of evolutionary thinking to solving practical problems is the biggest strength of the BNP itself—and therefore, of this book—but the zeal for pushing just one vision is also its greatest weakness.

The impetus for writing *The Neighborhood Project* began when Wilson created the Evolutionary Studies Program (EvoS) at the Binghamton University's New York campus to impart evolutionary thinking to students and scholars from all departments and, in the process, to bridge

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some of the gaps between isolated disciplinary islands in what he describes as the "ivory archipelago." It is a pleasure to read about the origin and success of this program, which has now become a model for many campuses around the country. One cannot overemphasize the role such a program can play in transforming the United States at a time when public support for science—evolutionary biology in particular—may be at a historic low point. Wilson therefore deserves to bask in the success of EvoS, and he is also to be commended for putting his ideas on the line in this and other projects that grew out of it within the framework of his grand vision.

The BNP arose from an EvoS-induced epiphany that the city might be studied as a superorganism of social individuals, using participatory research methods that could also improve the lives of its citizens. Using simple (indeed, simplistic) tools to measure human behavior, the BNP is building a GIS (geographic information system) database about the social behavior of Binghamton's citizens and mapping the data to understand and transform the way the city might work as a superorganism. The ambition is to create a "nervous system" that integrates information from all sectors of the city (e.g., health, social services, environment, crime, education) to monitor and improve quality of life. If the thought of tracking everything about a city's population sends chills up your spine, Wilson reassures us that the "rules that govern scientific research on humans" will protect privacy and human rights better than any other system can. Just trust the egghead professors who have our best interests at heart. (Where have we heard that before?)

Wilson eloquently recounts the serendipitous connections in the "pinball machine of life" that led him to study the city of Binghamton as a single organism shaped by the same evolutionary processes that have been observed in other organisms, as exemplified in his parables of the water strider, the wasp, and the human immune system. He uses these parables to present his framework of how evolution works, with "the hammer blows of natural selection" operating hierarchically, resulting in diverse outcomes ranging from the nasty, brutish, selfish lives of the water striders to the cooperative social groups of wasps and to the even more harmonious cooperation of cells in our own bodies. The outcome depends on the contingent path in the evolutionary history of each organism.

One must also wonder how much Ostrom's approach to economics... has to gain from Wilson's group-selection paradigm. Indeed, alternative models based on social contracts and policing may explain human society better than do innate prosocial tendencies or group-level selection.

Given the key role that the author has played in sustaining and reviving the theory of group selection (through multilevel selection theory), it is not surprising that the argument is made in compelling fashion within these pages. In fact, the idea is central to the framework of the book and is likely, therefore, to influence the thinking of many lay readers. Altruistic cooperation, under certain circumstances, helps group-level selection overcome the individual-level selection favoring selfishness, which tears groups apart. Accordingly, cooperation is the key to the success of social insects and other social groups, going all the way back to Lynn Margulis's (1971) scenario of how eukaryotic cells evolved through symbiosis among bacteria and other early single-celled organisms. Yet, in invoking cooperation as the metaphor for the evolutionary success of our own multicellular bodies, Wilson does not say much about the genetic relatedness among the cooperators, which can also align their selfish evolutionary interests in such a way as to favor altruism (e.g., kin selection theory). Although the merits of group selection are still hotly debated among evolutionary biologists, *The Neighborhood Project* ignores the potential critics of the theory by not bothering to anticipate and answer their criticisms.

Using an evolutionary framework to address policy issues on national and global scales, Wilson devotes an entire chapter to making the case that evolutionary thinking can even aid in solving current economic crises—with some help from the late Lin Ostrom's Nobel Prize–winning insights. It is nice to know that Wilson enjoys breaking disciplinary boundaries and learning from colleagues in other disciplines, but it is also clear that he believes that there is an inherent asymmetry in this exchange of perspectives, because his evolutionary theory has much more to offer other disciplines than they have to offer in return. This may explain why he picks and chooses tools and concepts from other disciplines mostly when they fit within his paradigm. Borrowing Ostrom's (1990) brilliant framework of rules for the governance of common pool resources is great; replicating Milgram's lost-letter survey to measure "civic virtue" is not. One must also wonder how much Ostrom's approach to economics, which is based on detailed analyses of many informal and formal systems of resource governance across human cultures, has to gain from Wilson's group-selection paradigm. Indeed, alternative models based on social contracts and policing may explain human society better than do innate prosocial tendencies or group-level selection.

Even more troublesome is Wilson's invocation of the spirit of Teilhard de Chardin, reviving his theories about the noosphere and human cultural evolution. Teilhard's religious convictions resonate greatly with the author's own spiritual leanings. No wonder Wilson, who also takes issue with the New Atheism movement, is well supported by the Templeton Foundation, whose mission is to reconcile religion

and science. Teilhard regarded the individual human capacity for reflection as a key to evolutionary development, which set us on our unique path of social and cultural evolution. Wilson inverts the sequence of events to argue that cooperation and trust among members of a social group is necessary for reflection to evolve. Trust, based on altruism and leading to the protective envelope of a cohesive social group, is therefore a precondition for the evolution of reflection in humans. However, this theory ignores much research in primatology that emphasizes the role of tactical deception in the development of a *theory of mind*, which is also a crucial element of reflection (Byrne and Whiten 1988, 1992).

Wilson also makes much of Teilhard's notion that human cultural diversity is somehow akin to biological diversity and is subject to the same evolutionary processes. I find it curious that despite emphasizing cultural diversity, both Teilhard and Wilson nevertheless find one cultural model—the European, Judaeo–Christian one—superior to all others, or at least capable of faster evolution. This suggests their mutual desire for a more singular pathway to controlling future human evolution on a planetary (noosphere) scale rather than diverse ways to solve our problems in different parts of the world.

The Neighborhood Project is not just a theoretical manifesto promoting the application of evolutionary biology to solve humanity's problems; it is also meant to be a practical manual demonstrating how this works. The book describes how the BNP began by attempting to map "civic virtue" (i.e., altruistic or prosocial behavior) across the city of Binghamton, using simple tools borrowed from other disciplines (and misapplied or overinterpreted to fit Wilson's paradigm). The biggest tool was the Developmental Assets Profile (DAP), a survey used by educators that was repurposed to measure aspects of prosocial behavior in school children. Inferring that children's social tendencies must be a result of their home and neighborhood environments, Wilson mapped the DAP scores of children against their home addresses to produce a GIS map showing "hills" and "valleys" of civic virtue. Through the use of kriging to interpolate the DAP scores on the basis of sample locations across the city, this map has become a primary motivating metaphor for the entire project and has been offered as a new way of seeing for the school district superintendent and other city officials.

The BNP redefined its goal as one of raising the valleys to get everyone onto the virtuous hills, and the DAP became a core element to be monitored on a regular basis to gauge the success of the project's interventions. Sociologists and psychologists more familiar with the DAP may be better judges of whether it can be used to measure altruism in the evolutionary sense in which Wilson uses it, but I have my doubts. The basic map of DAP scores was reinforced by subsequent measures of behaviors through surveys of Halloween and Christmas decorations, and a replication of Milgram's lost-letter experiment—each of which raise their own questions about methodological validity and reification of metrics.

For a scholar of religious diversity, it is surprising that Wilson chose to focus only on Halloween and Christmas decorations as measures of prosocial behavior. Are there no other options in Binghamton? Is participation in either of these really a good indicator of prosocial behavior in general?

Maps are powerful tools, of course, for finding patterns, identifying issues, and conveying information—and misinformation. GIS techniques such as kriging produce pretty-looking maps, which can strongly influence one's perspective, but how valid is it to read contours on a map of DAP scores or lost-letter return rates as a real topography of civic virtue when we do not know how those measures relate to the actual psychological motivations of the real people living under those contours? The book reveals a distinct lack of discussion on the reliability of these techniques, which were developed in a different context to address rather different questions than those about group selection and human social evolution. Urban ecologists also have found cities to be very heterogeneous at a fine scale, forcing them to rethink and revise the application of canned GIS techniques that do not always capture such heterogeneity. As much as Wilson invokes the use of maps, it is surprising that the book does not contain a single map of Binghamton, with or without the overlay of its civic virtue topography. It is an odd omission in a book about a real place, given how much people love to pore over maps even in fictional stories.

Despite the brief description of the history of the city, and repeated references to maps, one does not get a clear picture of the extent of socioeconomic, cultural, ethnic, or racial diversity in Binghamton. Knowing the diversity of the population is also critical, surely, for the success of policy interventions attempting to "raise the valleys." For a scholar of religious diversity, it is surprising that Wilson chose to focus only on Halloween and Christmas decorations as measures of prosocial behavior. Are there no other options in Binghamton? Is participation in either of these really a good indicator of prosocial behavior in general? I ask as a fellow atheist who does not celebrate either holiday but does occasionally light lamps outside my suburban California home during the Indian festival of Diwali. Am I dragging my neighborhood down into an antisocial valley?

The book is stronger when addressing human connections with nature in the city and the need to revive and reinforce those connections. The parable of the crows provides some insight into the challenges other organisms face in dealing with or adapting to human habitats such as cities, although the emphasis remains on the implications

for the evolution of social groups. But Wilson's focus remains on the humans, with urban biodiversity being discussed primarily in terms of its value for human psychological health.

Appealing personal stories of the citizens of Binghamton are woven together with those of scientists throughout Wilson's broad narrative, but trouble arises when these individual stories are filtered by the author's overarching vision in ways that distort their essence. I was particularly struck by the tale of the student Omar Eldakar. Wilson depicts Omar as a "street-smart" minority kid, who performed poorly in grade school, excelled at athletics, exhibited antisocial traits, but grew (under the good professor's benevolent influence) into a brilliant scholar of human social behavior and evolution. All this sounds great, until you contemplate Omar's background. He is also the well-loved son of well-educated Egyptian parents. His mother is an engineer with a PhD; his father is a caring parent who imparted his love for biology to his son and migrated to the United States for a better life. This profile does not exactly fit the stereotype of a street-smart minority kid. Could Omar's poor performance on standardized tests not simply be a result of being raised within a different cultural background rather than of innate (or culturally conditioned) Machiavellian tendencies?

Overall, the real strength of *The Neighborhood Project* is its detailed depiction of Wilson's ongoing experiment of the BNP. Given the urgency of social and environmental problems facing humanity these days, any new experimental approach must be welcomed, but its performance must also be closely observed and measured using the naturalistic scientific methodology championed, but not rigorously applied, in this book. If science works hand in hand with community development, so much the better for us egghead professors searching for implementation of our theories—but only if we are not too wedded to them.

Karl Marx (1886) observed, "The philosophers have only interpreted the world, in various ways; the point is to change it." Evolutionary biologists have only recently begun to interpret the city, and in doing so, many are also beginning to change it, because in the city, where most of us now live, it is possible—even necessary—to engage in philosophy and action at the same time. We need both a deeper understanding of urban and human social systems and ways to make a better world for ourselves and our fellow life forms. We must, however, also guard against the hubris of thinking that our particular disciplinary approach holds the key (or the commandments) to unlocking human potential when a diversity of tools, perspectives, and policies may be more adaptive in a heterogeneous world.

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