

The Evolution Institute

Prospectus for an Evolutionary Think Tank

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Evolutionary theory provides a framework for understanding all living processes, including humanity. It was obvious to everyone in Darwin's time that, if true, his theory would revolutionize our conception of ourselves. Yet, for complex reasons, evolutionary theory became restricted to the biological sciences and avoided for most human-related subjects for most of the 20th century.

That is now changing. Like water bursting from a dam, evolutionary theory is expanding beyond the biological sciences to include all human-related subjects, from neurobiology to the nature of religion. One of us (DSW) put it this way in his book *Evolution for Everyone: How Darwin's Theory Can Change the Way We Think About Our Lives*: "I sometimes wonder what it must have been like to be present during the early days of Darwin's theory, when the idea was so new and so much remained to be discovered. Then I realize that I *am* present during the early days of Darwin's theory. The intellectual events taking place right now are as foundational as 100 and 150 years ago."

These scientific developments are profoundly relevant to *improving*, in addition to *understanding*, the human condition. Pick any topic relevant to human welfare, from prenatal care to obesity, from psychotherapy to cooperation and conflict among nations, and evolutionary theory can provide insights that integrate and go beyond previous perspectives. In retrospect, it will become obvious that evolutionary theory is as important for managing human affairs as physics and chemistry are important for managing the physical world.

Currently, there is no mechanism for applying the insights of modern evolutionary theory to public policy issues. The scientific research is so new (mostly within the last 10 or 15 years) that it isn't even reflected in higher education, much less public policy formulation. At colleges and universities, evolution is still taught primarily as a biological subject and is absent from the curriculum of subjects such as economics, political science, sociology, and law. When it comes to public understanding of evolution, there is bad news and worse news: The bad news is that about half of Americans claim to disbelieve the theory. The worse news is that *the other half* associates evolution primarily with remote subjects such as fossils, dinosaurs, and human origins. Almost no one regards evolution as a theory that can help us understand and improve modern human welfare in a practical sense.

Current organizations dedicated to defending evolution, such as the National Center for Science Education (<http://www.natcensci.org/>), focus primarily on public school education, as opposed to the formulation of public policy or communicating the deep relevance of evolutionary theory to human affairs. Even these organizations are outgunned by think tanks such as the Discovery Institute (<http://www.discovery.org/csc/>), which are well funded to limit the application of evolutionary thinking in our schools, government, and everyday life.

The Evolution Institute will be the first think tank that applies cutting-edge scientific research from an evolutionary perspective to public policy issues and that effectively markets the relevance of evolutionary theory to the general public. We have the following specific goals:

- **Formulating public policy from an evolutionary perspective.** Just as evolutionary theory can be applied to virtually every human-related academic subject, it can be applied to virtually every major policy issue. In each case, viewing the subject from an evolutionary perspective can result in policy recommendations that have been missed by other perspectives. As a proof of concept, we have already organized a forum on early childhood education from an evolutionary perspective that will be described in more detail below.

- **Implementing public policy to make a difference in the real world.** In addition to *formulating* public policy, we will play an active role in *implementing* our recommendations in real-world settings. The directors and members of the advisory board are experienced at community-based research and development. Collectively, we have the means to devise and assess implementation programs with the highest degree of scientific rigor.

- **Changing the way that the public thinks about evolution.** Evolutionary theory can become widely accepted when it is perceived as unthreatening, explanatory, and useful. A threatening idea is like any other threat; the first impulse is to attack it or run away. Make the same idea alluring, and the first impulse is to embrace it. Everyone loves an explanation that makes the disparate pieces of one's life come together, like a jigsaw puzzle or the end of a good mystery novel. Everyone welcomes an idea that can actually help solve life's problems, from our own personal welfare to making the world a better place. Those who learn to see evolution in this light not only accept it, but adopt it enthusiastically as a new worldview. Alternatives such as creationism (including Intelligent Design) lose their allure because they are less explanatory and useful. This transformation is already taking place at a modest scale, through books and college courses that present the material in a proper way. We will attempt to accomplish the transformation at a much larger scale until it becomes the new public understanding of evolution.

Organizational Structure

The Evolution Institute will have a lean organizational structure to maximize the use of funds for specific projects. The two directors will work with a standing group of advisors and a small secretarial staff to direct the Institute. They will have the general expertise to set the agenda and assemble the specific expertise required for any particular project. Those involved in a given project will be supported on a per project basis. We have already provided a proof of concept in our workshop on early childhood education, as described in more detail below. Additional projects will be added in a modular fashion in a way that contributes to the overall mission of the Institute.

This lean organizational structure can work because it is connected to other organizations that are already in place. David Sloan Wilson (<http://evolution.binghamton.edu/dswilson>) is one of the world's foremost evolutionists who initiated and directs EvoS, a campus-wide evolutionary studies program that includes all human-related subjects in addition to the biological sciences (<http://evolution.binghamton.edu/evos>). Wilson has recently received National Science Foundation (NSF) funding to establish a nationwide consortium of programs, making the EvoS concept an important development in higher education. The NSF grant is coordinated with other evolution-related organizations such as the National Center for Science Education, the National Evolutionary Synthesis Center, and the Society for the Study of Evolution. Wilson is also developing an infrastructure for community-based research and development from an evolutionary perspective in the form of the Binghamton Neighborhood Project (<http://evolution.binghamton.edu/bnp/>), which will enable policy recommendations that emerge from the think tank to be implemented in a real world setting. Finally, Wilson is widely known to the general public through his aforementioned book *Evolution for Everyone: How Darwin's Theory Can Change the Way We Think About Our Lives* (Bantam, 2007) and his forthcoming book *Evolving the City: An Evolutionist Contemplates Changing the World—One City at a Time* (Little, Brown).

Jerry Lieberman, the other director, is president of the Humanists of Florida Association (HFA), a charter chapter of the American Humanist Association. He envisioned the founding of the Carl Sagan Academy, a public charter school located in Hillsborough County, Florida, which is sponsored by HFA. He also founded and directed the Jim Walter Partnership Center at the University of South Florida and the Urban Institute at Essex County College in Newark, New Jersey. The center and institute were start-ups that became multi-million dollar operations, receiving public and private funding and national recognition. Both of these post secondary entities were harnessing higher education resources to partner with local communities for the purpose of improving the quality of life in at-risk communities. This endeavor involved extensively researching best practices and developing innovative strategies for application that resulted in improved outcomes. Lieberman employs his academic preparation as a political scientist to access government and private resources and build strong support for program advancement and changes in policy when required. His credentials as a humanist, organization builder, extensive management background, including a college dean, serving on numerous government and corporate boards, complements Wilson's academic

credentials as an evolutionist and provides additional opportunities for implementing our policy recommendations in real-world settings with strong management and accountability.

The advisory board will include scientists at the forefront of studying evolution in relation to human affairs and experts in the area of policy formulation and implementation. Their participation will insure that specific projects will be of the highest scientific caliber and will have an impact on public policy at all levels, from local to international. The Evolution Institute will be nonpartisan, since evolutionary theory itself is not biased toward any particular political ideology. Instead, we will make science-based information available to policy makers representing the full political spectrum.

A common theme that will unite most of our specific projects is *prosociality as a successful evolutionary strategy*. We define prosociality as any belief or practice that is oriented toward the welfare of others or society as a whole. Superficially, prosociality appears difficult to explain from an evolutionary perspective, since individuals or organizations that employ prosocial strategies are inherently vulnerable to exploitation by more self-oriented individuals and organizations. One of the most important achievements of modern evolutionary theory, however, is to show that *prosociality can succeed as an evolutionary strategy under the right environmental conditions*, where “environment” is construed broadly to include aspects of the physical and social environment that can be managed by human activities. A sophisticated knowledge of evolutionary theory can help prosociality thrive at all scales, from neighborhoods to nations, by providing the right environmental conditions.

Environmental interventions can be successful because there is more to evolution than genetic evolution. Fast-paced psychological and cultural processes also count as evolutionary, enabling people and cultures to quickly respond to environmental change. In the past, evolution has been associated with genetic determinism, while learning and culture have been conceptualized as alternatives to evolution. One of the most important achievements of modern evolutionary theory has been to reject this false dichotomy by understanding learning and culture as products of genetic evolution and as evolutionary processes in their own right. There is a middle ground between strict genetic determinism and “blank slate” social constructivism that requires a sophisticated knowledge of evolutionary theory to navigate. The details are beyond the scope of this prospectus, but suffice it to say that modern evolutionary theory can provide fresh answers to problems that have stubbornly resisted solution in the past.

Early Childhood Education as a Proof of Concept

As ongoing criticism indicates, the low quality of American education is a classic example of a problem that won't go away, despite everyone's best intentions. What would education look like if it could be designed "from the ground up" based on current knowledge of childhood development from an evolutionary perspective? Would it be radically different from and better than existing practices? If so, would it be possible to "get there from here" by making incremental changes in existing practices, or would it require a saltational jump?

We decided to focus on this very important and challenging policy issue as a proof of concept for the evolutionary think tank as a whole. Our experience was instructive and worth relating in detail. Our first task was to locate the scientific expertise for this particular subject. We quickly identified eight authorities who share three things in common. First, they stand at the absolute top of their fields of child development and education. The biographical sketches provided in Appendix 1 speak for themselves. Second, they already recognize the value of the evolutionary perspective and are using it in their own work. In other words, approaching a subject such as child development and education from an evolutionary perspective is not fringe science, or future science, but represents the best of current scientific research by some of the most respected practitioners. Third, they all agreed with the need for a process that translates current research into educational practice, beginning with a workshop and continuing with implementation based on the recommendations that emerge from the workshop. Our acceptance rate was 100%.

Our next task was to raise funds and find an appropriate location for the workshop. We quickly raised the necessary funds by approaching a number of family foundations. Our donors recognized the uniqueness of the evolutionary think tank concept in addition to their interest in the specific subject of childhood education. We then approached William Scott Green, Vice Provost at the University of Miami, with the idea of holding the workshop on his campus. Green already approaches his own academic interests of religion and entrepreneurship from an evolutionary perspective. In his capacity as Vice Provost, he engaged the interest of UM's highly regarded School of Education and offered to host the workshop and subsidize the food and lodging costs.

Even before the workshop takes place on November 14-17, we are encouraged by our experience during the planning process. We are confident that the Evolution Institute can become a major agent of change for public understanding of evolution and a wide range of specific policy issues.

Moving Forward

The appendix of this document provides details for the November forum on early childhood education, which is already funded. We are currently raising funds to establish the think tank as a whole. David Sloan Wilson intends to devote half of his professional time directing the Institute, which indicates his commitment. Jerry Lieberman will be devoting most of his time to the Evolution Institute, playing a crucial role in moving it from the conceptual phase to implementation and sustainability. Building an endowment over the long term will enable specific projects to be expanded and added in an open-ended fashion. Some of the specific projects will be initiated by the Institute, while others will be client-driven. In other words, we expect to be approached by clients who want to see a given policy issue studied from an evolutionary perspective and are willing to provide the funding. Client-driven projects will be evaluated by the advisory board before being accepted as consistent with the mission of the Institute.

Please contact either director, David Sloan Wilson (dwilson@binghamtong.edu) or Jerry Lieberman (jlieber1@tampabay.rr.com) to learn more about becoming involved in the Evolution Institute.

Appendix I. Forum on early childhood education from an evolutionary perspective. University of Miami, Nov 14-17

The purpose of the workshop is to brainstorm about what early childhood education would look like if it could be designed “from the ground up” based on current knowledge of human development informed by evolutionary theory. The workshop will result in recommendations for research and implementation in real-world settings, which can become the basis of future initiatives funded by the Evolutionary Think Tank or other agencies.

Day 1 (Nov 14): Arrival day and evening reception

Day 2 (Nov 15): Theory and basic research

Day 3 (Nov 16): Policy recommendations and implementation

Day 4 (Nov 17): Public symposium and publicity

Participants

Daniel Berch

(http://teach.virginia.edu/index.php?option=com_currypeople&userid=dbb6h&task=detail) is the new Associate Dean for Research and Faculty Development at the University of Virginia’s Curry School of Education. Formerly, he was Associate Chief of the Child Development and Behavior Branch at the National Institute of Child Health and Human Development (NIH). He is an authority on children’s numerical cognition, mathematical learning disabilities, and spatial information processing, and has written about the educational implications of evolutionary theory with respect to the design of effective instructional practices. He is the senior editor of *Why is math so hard for some children? The nature and origins of mathematical learning difficulties and disabilities* (with M.M.M. Mazzocco, Paul H. Brookes 2007) and of *Sex chromosome abnormalities and human behavior: Psychological studies* (with B.G. Bender, AAAS/Westview 1990).

Anthony Biglan (<http://www.ori.org/Research/scientists/biglanA/>) is a Senior Scientist at Oregon Research Institute, Director of the Center on Early Adolescence, and past President of the Society for Prevention Research. He has been doing research for the last 25 years on the prevention of adolescent problem behaviors, including numerous experimental evaluations of interventions to prevent tobacco, other drug use, high-risk sexual behavior, reading failure, and aggressive social behavior. He is author of *Helping Adolescents at Risk* (with P.A. Brennan, S.L. Foster, and H.D. Holder, Guilford 2003) and *Changing Cultural Practices: A Contextualist Framework for Intervention Research* (Context, 1995).

David Bjorklund (<http://psy.fau.edu/~bjorklund/>) is Professor of Psychology at Florida Atlanta University. His research interests are in the areas of cognitive development and evolutionary developmental psychology. He serves as editor of the *Journal of Experimental Child Psychology* and is author of *Why Youth is Not Wasted on the Young: Immaturity in Human Development* (Blackwell, 2007) and *Children’s Thinking: Cognitive Development and Individual Differences* (Wadsworth, 2005), *Origins of the Social Mind: Evolutionary Psychology and Child Development* (with Bruce Ellis, Guilford, 2004), and *The Origins of Human Nature: Evolutionary Developmental Psychology* (with Anthony Pellegrini, APA, 2001).

Bruce Ellis (<http://cals.arizona.edu/fcs/fshd/people/ellis/ellis.htm>) is Professor of Family Studies and Human Development and the John & Doris Norton Endowed Chair in

Fathers, Parenting, and Families at the University of Arizona. His research uses evolutionary theory as a framework for studying gene-environment interactions during development, especially with respect to sexual development and child stress reactivity. He employs a variety of methodologies, including descriptive longitudinal work, behavioral observation, laboratory assessment of biological reactivity to stressors, experimental manipulations, direct interviews, and questionnaire measures using self- and peer-reports. The overarching theoretical framework that organizes his research is Evolutionary Developmental Psychology, as outlined in his book co-authored with David Bjorklund (cited above).

Dennis Embry (www.paxtalk.com) is scientist-entrepreneur who is president of PAXIS Institute in Tucson, AZ. He has developed large, population-level behavior-change projects and studies for injury control in New Zealand, violence prevention in America, military deployments during the Gulf War, and tobacco control in multiple states with experimental designs. He is presently developing statewide initiatives for child abuse and multi-problem behavior prevention for the state of Florida, Alaska and other states. He was the first author of a \$50 million plan for Wyoming funded by its legislature. His scholarly writing focuses on social change applied to large population-level change— integrating brain, behavioral, and evolutionary factors. He is a former National Research Advisory Council Senior Fellow in the Commonwealth, recipient of the science to practice award in 2006 by the Society for Prevention Research, and author of multiple manuals and training efforts for social change. He is currently preparing a new popular book and TV program for PBS entitled, “*Youthanasia: How modern culture is slowly killing our youth and what can be done.*”

David Geary (<http://web.missouri.edu/~gearyd/>) is Curators’ Professor of Psychology at the University of Missouri. He is a cognitive developmental psychologist with interests in mathematical learning and in evolution. His books include *The Origin of Mind: Evolution of Brain, Cognition, and General Intelligence* (APA, 2005), *Male, female: The evolution of human sex differences* (APA, 1998), and *Children's Mathematical Development* (APA, 1994). He was Chair of the Learning Processes task group of the President’s National Mathematics Panel and is lead investigator on a longitudinal study of children’s mathematical development and learning abilities. Among many distinctions are the Chancellor's Award for Outstanding Research and Creative Activity in the Social and Behavioral Sciences (1996), a scientific MERIT award from the National Institutes of Health, and an appointment by President Bush to serve a three-year term on the National Board of Directors for the Institute for Education Sciences (U.S. Department of Education).

Peter Gray (http://www.bc.edu/schools/cas/psych/faculty_staff/gray.html) is Research Professor of Psychology at Boston College and author of *Psychology*, one of the main introductory textbooks, currently in its 5th edition. His textbook is one of the first to approach psychology as a whole from an evolutionary perspective. His past research concerned the nature of mammalian motivational mechanisms and his current research on childhood education and play was initially motivated by his son’s unsatisfactory public school experience, which caused Peter to investigate alternative schooling practices modeled after traditional societies and evolutionary theory. Recent publications include “Playing in the Zone of Proximal Development: Qualities of Self-Directed Age Mixing

Between Adolescents and Young Children at a Democratic School (with Jay Feldman, *American Journal of Education*, 110, 108-145. 2004). Peter writes a weekly blog on the Psychology Today site. The series is entitled *Freedom to Learn: Play, Curiosity, and Education* (<http://blogs.psychologytoday.com/blog/freedom-learn>).

Anthony Pellegrini (<http://cehd.umn.edu/EdPsych/Faculty/Pellegrini.html>) is a Professor in the Department of Educational Psychology at the University of Minnesota, Twin Cities Campus. His teaching and research interests include observational research methods, children's peer relations, the role of play in development, and social contextual influences on classroom achievement. In his lab, he and his students are currently studying longitudinally preschool children's social behavior and dominance, sex segregation and theory of mind using direct observations of children in their classrooms. Recent publications include: Co-authoring (with David Bjorklund) *The origins of human nature: Evolutionary developmental psychology*, co-editing (with Peter Smith) *The nature of play: Great apes and humans*, and author of the upcoming, *The role of play in human development*.