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The MAHB and the *BioScience* Gang

PAUL R. EHRLICH

Why should a plant ecologist, a student of bird evolution, and a butterfly taxonomist get involved in the Millennium Assessment of Human Behavior (the MAHB—pronounced "mob")? One reason is that they are probably as frustrated as I am with the lack of action on concerns we all share. Climate disruption is an obvious example. The data suggest that the big uncertainty is not whether anthropogenic climate disruption is actually occurring, but whether there is a real chance of avoiding utter catastrophe. Distinguished climatologist Jim Hansen has serious doubts (Hansen 2009). Moves to limit the flow of greenhouses gases (GHGs) into the atmosphere and to rapidly rebuild the infrastructure for mobilizing energy have been halting at best, and little or nothing is being done to adapt to foreseeable changes affecting agriculture or natural ecosystems. Among many other things, we will need to redesign essential water-handling infrastructure for as much as a millennium of continuously changing rainfall patterns.

At least climate is now on the political agenda, but you very likely share my disgust about the lack of attention to other issues that are equally, or more, critical. These include the rapid decay of biodiversity and loss of ecosystem services, nasty symptoms of global toxification (Howden 2007), deterioration of the epidemiological environment, and the recently disclosed environmental risks from even regional-scale nuclear wars (Toon et al. 2007).

The lack of awareness and corrective action regarding the drivers of ecological destruction, summarized in the I = PAT equation, is even worse. The United States is doing nothing about its continued rapid population growth, while European governments are promoting population Ponzi schemes in an attempt to raise fertility rates and prevent the inevitable aging of their populations (Ehrlich and Ehrlich 2006). Although the role of population growth in our problems should be transparent to middle schoolers, it has proven difficult to get even this simple population statement into the climate negotiations: Essentially, the more people there are, the more GHGs will be emitted. Furthermore, few recognize the disproportionate environmental impact of future additions to the population, since these people generally must be supported from lower-quality resources—through, for instance, farming marginal land or mining lower-grade ores, all of which increase energy use and thus damage our life-support system.

Sadly, many businessmen, economists, and politicians still press for more consumption as a cure for economic ills. They fail to see that overconsumption by the rich is a major driver of environmental destruction (Ehrlich and Ehrlich 2005) and ignore the roughly two billion people who need *more* consumption to lead decent lives. Far from cooperating in solving the predicament, they share the delusion that the physical economy can grow forever, or they think the wealthy can retreat to a "fortress world" where they can grow dozens of times "richer" over the next century.

The scholarly community has detailed the chief issues of the human predicament and outlined how we should approach its solution. With the vast majority of my colleagues, I believe humanity must take rapid steps toward that solution. But too little of any substance is being done, as exemplified by the abundant talk but minimal action on climate disruption at Copenhagen. We don't need any more Millennium Ecosystem Assessments to tell us how fast our life-support systems are going down the drain. What we do need is something never before attempted—to mobilize scientists, social scientists, scholars in the humanities, and the general public to find and promote ways to change human *behavior*. The central need is not for more natural science (although in many areas it would be helpful), but rather for better understanding of human goals and how to redirect cultural evolution. We need a grassroots movement to steer humanity on a course toward a sustainable society before it's too late.

That's why a group of natural scientists, social scientists, and scholars from the humanities have decided to inaugurate a Millennium Assessment of Human Behavior. The name emphasizes it is human *behavior,* toward one another and toward the planet that sustains us, that is in need of rapid modification. The MAHB should become a basic mechanism to expose society to the full range of population-environment-resource-ethics-power issues, and sponsor global "bottom-up" discussions involving the greatest possible diversity of people. Incremental change directed by the powers that be has not worked; top-down change combined with a revolution from below just might.

The Intergovernmental Panel on Climate Change (IPCC) provides one top-down model for the MAHB. The IPCC involves hundreds of scientists, from nearly every nation, representing diverse disciplines, from atmospheric physics, chemistry, and ecology to economics, law, and other social sciences. A major role of the IPCC is to sort out the scientific validity of claims and counterclaims of competing interests. It also puts a strong emphasis on finding *equitable* solutions. Its sessions are open and transparent, and representatives of governments, interested industries, and environmental organizations

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also participate as observers. But so far the IPCC effort has failed to trigger the kinds of revolutionary changes required. Another top-down model was the excellent Millennium Ecosystem Assessment, which was developed by environmental and social scientists to assess the condition of Earth's life-support systems. The report it released in 2005 included not only an assessment of the state of the world's ecosystems but also projections of alternative future trends and consideration of related policy choices. Unfortunately, it has had even less impact than the IPCC on policy, because of a lack of government buy-in and a failure to generate global public discussion.

The MAHB differs from both by planning a dominant role for outreach and public input. It includes a bottom-up element—the rapid generation of a global conversation on what the predicament is, what people desire, and which sustainable social goals are biophysically possible to reach. No models for such a global project exist; it will require much thought and experimentation. One experiment will be to see whether new, coordinated efforts by social scientists and scholars in the humanities can be catalyzed to help solve the human predicament.

To kick all this off, the MAHB hopes to organize a world megaconference like the United Nations Conference on Environment and Development (held in Rio de Janeiro in 1992) in 2011 or 2012. A conference would formally establish the MAHB, which is now at a preliminary stage, as a semipermanent, autonomous institution. The MAHB has a great need for input from thoughtful individuals in the social sciences and humanities, the media, the business community, and, most important, from concerned citizens everywhere. If you are interested in getting involved, go to *http://mahb.stanford.edu/*. There you can join the effort to get humanity to do what is obviously required but often deemed impractical.

What can we, as ecologists, evolutionists, taxonomists, behaviorists, and the like, do besides sign up for the MAHB? The Web site is slowly building an array of suggestions, but one clear way to participate is to use our expertise to help close vital parts of the culture gap. While for most of the existence of *Homo sapiens,* all adults in a group possessed essentially the entire group's culture (the store of nongenetic information), today no educated person possesses even a billionth of her or his society's culture. It's okay that most of us can't assemble a TV set from its parts and explain where those parts came from or how the set works. But it's not okay that 60 percent of Americans don't accept evolutionary theory as the best explanation of biotic diversity. It's not okay that virtually all politicians and businessmen can't coherently explain the decay of ecosystem services caused by population extinctions, or the potential for climate disruption to exacerbate that problem. And it's not okay that the Manufactured Doubt industry has convinced a substantial portion of laypeople that climate disruption is a hoax.

So it's time we biologists gather ourselves together and further expand our efforts—in classes, museum displays, congressional testimony, public lectures, popular articles, media appearances, and in any other way possible—to close that part of the culture gap. We must fully participate in developing a vision of a sustainable world and try to help humanity move in that direction. I hope you'll join the MAHB and help it figure out how to succeed. The interaction should be helpful to you and—perhaps more important—to your grandchildren.

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