

SCIENCE & TECHNOLOGY

How Billions of Humans Can Evolve In Harmony on Planet Earth

By Frederick Pratter

NORTH Americans have little concept of just how poor much of the rest of the world is. Recent United Nations reports put the current world population at about 5.8 billion. Roughly a fifth, or 1.3 billion people, have cash incomes of less than a US dollar a day.

In the United States today, it takes more than 12 acres of cultivated land to maintain each individual; in the developing countries, fewer than two. To raise the rest of the world to our standard of consumption would require more arable land than exists on the entire planet, even assuming that we eliminated all the other animals and any plants that could not be used for food crops.

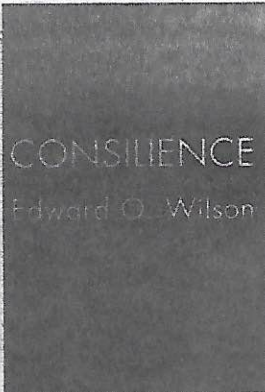
Two recent volumes approach this doomsday scenario from different, yet hopeful perspectives. Edward O. Wilson seems like a kindly, if phenomenally erudite, uncle. A distinguished entomologist, he is author of what is probably the most popularly successful book ever written about ants, "The Ants," (Belknap Press).

For many years he taught an introductory science course at Harvard University and has written a number of books on sociobiology, a discipline he largely invented.

Wilson's latest book is **Consilience: The Unity of Knowledge**, the coming together of disparate branches of knowledge. "The central idea of the consilience world view," he writes, "is that all tangible phenomena, from the birth of stars to the workings of social institutions, are based on material processes that are ultimately reducible, however long and tortuous the sequences, to the laws of physics."

In a series of carefully detailed chapters he lays the groundwork for his argument in the natural sciences, economics, anthropology, sociology, the arts and letters, and ethics and religion. Each area, he contends, is informed by, and can take direction from, what he calls "epigenetic rules," the progressive biological development of the embryo.

"These regularities of development are the algorithms of growth and differentiation that create a fully functioning organism," he



CONSILIENCE: THE UNITY OF KNOWLEDGE

By Edward O. Wilson
Alfred A. Knopf
332 pp. \$26

GREEN SPACE, GREEN TIME: THE WAY OF SCIENCE

By Connie Barlow
Springer-Verlag
329 pp. \$25



says. Just as fish have gills and primates have 10 fingers and 10 toes, so we Homo sapiens have something called human nature that is evolutionarily determined.

Wilson is well known in the scientific community for his adaptationist stance. Wilson believes that the basis of what we are, our cultures as well as our physiology, has evolved for a reason. We have become human because it offers us an evolutionary advantage over the other large animals.

This gives us a duty as well as a superior position. Wilson does not hold with the notion that the earth was created for mankind's dominion. As he puts it, "So here we are, no one having guided us to this condition, no one looking over our shoulder, our future en-

tirely up to us. Human autonomy having thus been recognized, we should now feel more disposed to reflect on where we wish to go."

Although he rejects the use of scientific findings for religious purposes, ultimately Wilson's stated goal is nothing less than the "unity of knowledge." Since the Enlightenment, he maintains, an understanding of the ultimate laws of the universe, in all their self-organizing complexity, has been the aim of modern science.

We billions of humans on this small planet must find our true place in the universe. We have been given minds so that we may understand. One may or may not agree with Wilson that such an understanding can come about, but the search is certainly the most exciting, and the most necessary, activity we can pursue.

CONNIE BARLOW is a science journalist and editor of two previous essay collections on evolutionary biology. Her recent work, **Green Space, Green Time**, is a compilation of interviews and discussions about the new evolutionary synthesis.

Like Wilson, she argues that "the ecological crisis demands a deep solution. The will to change must come from within," she writes. "Only a shift in values can work a lasting shift in laws and institutions and most important, everyday practices. And these values must emerge from a world view that is in a fundamental sense religious."

Barlow offers a diverse, and to some extent a do-your-own-thing, view of religion. She finds in humanity the need for a creation myth, for a poetic explanation of how we came to be here, made as we are. Her conclusion is that the scientific picture of Darwinian evolution, as interpreted in the last few decades, offers such a creation myth.

"We are privileged, through science, to know and witness the immense and fecund journey of life on earth," she says. Through the spiritual experience of this myth, we can recreate ourselves to recognize that we are part of nature, not just despoilers.

Reading this book, however, is a lot like being cornered at a party by an impassioned and loquacious stranger. After a while, the reader longs to get away for a refill on mozzarella sticks. Barlow's work is best and most enlightening when she steps aside to let her material tell the story.

Frederick Pratter writes from his home in Hull, Mass.

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