

The Making of a Scientist

A Life Worthy of Admiration and Imitation

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Naturalist

E O Wilson

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E O Wilson

it's the same Wilson in all the above and more *avatars*.

Edward Osborne Wilson, Pellegrino University Professor and Curator in Entomology at the Museum of Comparative Zoology, Harvard University, is probably known to different people for different things. Some know him for creating the science of sociobiology and for being in the eye of the storm raised by the human sociobiology controversy. Some know him as the social insect specialist, author of *Insect Societies* and, the Pulitzer prize winning, *The Ants* written with Bert Hölldobler. Others know him for his theory of Island Biogeography, developed along with the legendary ecologist, Robert H MacArthur. Still others know him as the most influential spokesman for the study and conservation of biodiversity and author of *The Diversity of Life*. I do hope that many Indian students by now know him as the author of the quotation “The worst thing that can happen, *will* happen, is not energy depletion, economic collapse, limited nuclear war, or conquest by a totalitarian government...” reproduced on page 23 of *Resonance*, Vol.1, No.3, 1996! Surprising but true,

Coming from the horse's mouth, this memoir of his life and times and of his evolution as a scientist is a uniquely enjoyable read. Books like this one should be made compulsory reading, instead of, not in addition to, one of the books on biology that students are now required to read. Students would learn a lot more and would, for once, enjoy the process of learning. Wilson describes himself as a happy man in a terrible century. But why terrible century? Because Wilson laments: “In one lifetime exploding human populations have reduced wilderness to threatened nature reserves. Ecosystems and species are vanishing at the fastest rate in 65 million years”. But to go back to the beginning, Wilson begins by recollecting how at the age of seven he stood “in the shallows of Paradise beach, staring down at a huge jellyfish in water so still and clear that every detail is revealed as though it were trapped in glass....I want to know more but I am afraid to wade in deeper and look more closely into the heart of the creature.....The jellyfish, I now know was a sea



nettle, formal scientific name *Chrysaora quinquecirrha*, a scyphozoan, a medusa, a member of the pelagic fauna that drifted in from the Gulf of Mexico and paused in the place where I found it....There was trouble at home in this season of fantasy. My parents were ending their marriage that year. Existence was difficult for them, but not for me....Each morning after breakfast I left the small shorefront house to wander alone in search of treasures along the sand”.

The fact that a fishing accident in which the spine of a fish pierced the pupil of his right eye, and left him with full sight in the left eye only, did not deter Wilson from pursuing natural history: “The attention of my surviving eye turned to the ground. I would thereafter celebrate the little things of the world, the animals that can be picked up between thumb and forefinger and brought close for inspection.” Wilson’s prescription for the making of a naturalist should come as an eye opener for today’s parents and teachers: “Hands-on experience at the critical time, not systematic knowledge, is what counts in the making of a naturalist. Better to be an untutored savage for a while, not to know the names or anatomical details. Better to spend long stretches of time just searching and dreaming”.

Wilson spent most of his childhood and a great deal of his adulthood catching butterflies, digging up ant nests and aiming pebbles at the heads of snakes so as to stun and seize them under water. I am sure many of us recall similar phases in our lives. What then is the



difference? Why did we all not go on to become naturalists of his class? Wilson anticipates this question from his readers and provides a convincing answer - “Most children have a bug period. I never grew out of mine”, he admits. Wilson’s frankness makes the book truly enjoyable. He describes J D Watson, the co-discoverer of the structure of DNA, as “the most unpleasant human being I had ever met. He came to Harvard as an assistant professor.....with a conviction that biology must be transformed into a science directed at molecules....and re-written in the language of physics and chemistry.....What had gone before, ‘traditional biology’ — *my* biology — was infested by stamp collectors who lacked the wit to transform their subject into a modern science...At department meetings....[he] radiated contempt in all directions”. When Watson became the Director of the Cold Spring

Harbor Laboratory, Wilson admits commenting to his friends that “I wouldn’t put him in charge of a lemonade stand” but graciously goes on to confess: “He proved me wrong. In ten years he raised that noted institution to even greater heights by inspiration, fund raising skills and the ability to attract the most gifted researchers.” I hope this is bait enough for my molecular biology colleagues and the already converted molecular biology students to read the book.

But I wouldn’t blame Watson after all. These encounters appear to have made Wilson obsessed with the idea of raising organismic biology to a respectable level without necessarily succumbing to the molecular pressures. It is now a matter of history that Wilson has been at the forefront of this very successful enterprise. I cannot do better than follow Wilson and quote Stuart Mill who said that “Both teachers and learners fall asleep at their posts when there is no enemy on the field.” Indeed Wilson became so preoccupied with creating syntheses of various branches of organismic biology that, in the only excessively modest passage in the book, Wilson says, “Knowing where my capabilities lay, I chose the second of the two routes to success in science: breakthroughs for the extremely bright, syntheses for the driven.” In the rest of the book Wilson has perfected the art of being un-modest without a trace of immodesty, of being frank and objective about one’s own achievements, like a true scientist. One of my favourites is his description of the massive book *The Ants* that he wrote with Bert

Hölldobler: “ It contained 732 double – columned pages, hundreds of textbook figures and color plates, and a bibliography of 3,000 entries. It weighed 7.5 pounds, fulfilling my criterion of a magnum opus - *a book which when dropped from a three storey building is big enough to kill a man*” (italics, mine).

Autobiographies are not easy to review. A reviewer can at best hope to whet the appetite of the reader by giving him tantalizingly brief glimpses into the life of the man and the nature of the memoir. That is what I have attempted to do. I cannot find stronger words to recommend this unique combination of autobiography, history, biology and philosophy. Reading *Naturalist* is the most pleasurable way to learn, reflect and shape one’s career in science. When I read it, my only complaint was the book came to an end! How many readers of *Resonance* would succeed in laying their hands on the book is a difficult question to answer but I strongly suspect that a relatively inexpensive paperback would hit the stands soon. In any case I believe that knowing about a good book that is not easily available is better than being ignorant of its existence. I have often heard good things about a book and have had to let the desire to read it grow with me — the longer I have had to wait, the more I have enjoyed finally reading it.

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