



On the Human Condition

George Wald

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Higgins Professor of Biology at Harvard, Dr. George Wald is a corecipient of the Nobel Prize in Physiology and Medicine (1967). He has written extensively on the chemistry and physiology of vision and is coauthor of *General Education in a Free Society, Twenty Six Afternoons of Biology*. A Fellow of the National Academy of Science, the American Academy of Arts and Sciences, and the American Philosophical Society, he has received the Lasker Award of the Public Health Association, the Rumford Medal of the American Academy of Arts and Sciences, and the Paul Karrer medal in Chemistry, of the University of Zurich.

Every weekday morning a fifteen-minute service that includes a six-minute sermon is held in the Harvard Chapel. In the past few years I have given several such sermons, and have written this paper in that format. I have nothing to do with the rest of the service, but I like to do the sermon, since it lets me say things for which there is no place in my teaching, and makes me say them in six minutes—an almost biblical degree of constraint.

Genesis 3:22-23: "And the Lord God said, Behold the man has become as one of us, to know good and evil: and now, lest he put forth his hand and take also of the Tree of Life and eat, and live forever: therefore the Lord God sent him forth from the Garden of Eden, to till the ground from whence he was taken."

What most distinguishes man from other living creatures is the capacity to know, that is the basis of his science, and to create, that is the foundation of his art. In all other things he is an animal like any other—if you like, a social animal like any other. In these things he is unique: he is the knowing and creating animal—*Homo sapiens* and *faciens*.

These noble proclivities rest in part upon a substrate of mere anatomy. The great Canadian neurosurgeon Wilder Penfield, exploring the areas of the human brain concerned with sensations from various parts of the body and bodily motions, found an altogether exaggerated representation in the cerebral cortex of two organs: the hands and the mouth. The image of man that is projected upon his brain is distorted in this way: it has huge hands and a huge mouth.

For man is also the handling and the talking animal; and these uniquely human attributes have much to do with his knowing and creating.

The human hand with its five fingers is a very general vertebrate character; but in man one of those fingers, the thumb, is joined so as to meet the others; and that opposable thumb, that permits precise manipulation, is one of the ultimate sources of his technology and his art. [112]

Also that human mouth can form words. Those words, spoken from man to man and eventually written down, introduced a new mode of inheritance into the evolution of living things—cultural inheritance; so that each generation of men need not begin anew, but might go on from where earlier generations had left off.

In *Murder in the Cathedral*, T. S. Eliot has Thomas Becket speak of "the greatest treason: To do the right deed for the wrong reason."

Animals for the most part do the right deeds, because they must to have survived, because they are made that way. They act ceaselessly, but in silence. They offer us no reasons.

It is only man who accompanies every ac-



tion with an explanation. He is forever talking, telling all who will listen just why he is doing whatever he does. It is plain enough that frequently the reasons he gives are improvisations, altogether suspect; but real or illusory, there are always his reasons.

Once I heard Niels Bohr put the matter supremely well. He was speaking of the eel migrations. All the eels off the shores of the Atlantic, European and American, migrate at sexual maturity to the depths of the Sargasso Sea, there to spawn and die. The little larval eels make their way back alone. It takes them a long time, but eventually they arrive. The American larvae come back to the American shores, whereas the European larvae, which are of another species, go on eventually to reach Europe. So far as we know, they never get mixed up. Bohr said these

for me unforgettable words: "It is just because they do not know where they are going that they always do it perfectly."

It is only we, who to a degree know and decide where we are going, who have lost thereby the assurance that we will do it perfectly. We have it in us, not only to do the right deed for the wrong reason, but the wrong deed for whatever reason. We have ceased to be the automatic creatures of nonhuman nature, and nature has to this degree ceased to take care of us. We have lost the safeguards of instinctual life—have been expelled from the Garden—and must fend for ourselves. We have our destiny somewhat within our own hands; and as God says in the story, that makes us one with the gods. It is the measure of our freedom: to choose where we are going, for good or evil.