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A SCIENTIST’S COMMENTS ON “THE SCIENTIFIC ENTERPRISE AND SOCIAL CONSCIENCE.”

by

ROBERT MORISON

About twenty years ago I was a member of the staff of the Rockefeller Foundation when Mr. Chester Barnard became its President. He had formerly been President of the New Jersey Bell Telephone Company. He was also an unusually intelligent and reflective man, who had given some unusual attention to the role of the executive in large enterprises. I learned a good deal from him about how to behave in the world of affairs, and I particularly remember that he was against taking detailed notes or minutes of committee meetings. The point of a committee, he said, is to get agreement about something. The agreement should be carefully recorded but it is a mistake to record the preliminary discussion leading to the agreement, he said. It is much more likely that you can get people to agree to do something than to agree on all their reasons for agreeing. To make a point of the reasons may lead to reopening a long and tedious discussion when none is really necessary.

I am not going to follow this advice today since I suppose that the purpose of a discussion is to discuss. As a matter of fact, I don’t really disagree with what I take to be Professor Edel’s conclusion, but I can disagree with and discuss some of his reasons. Some of my disagreements will doubtless strike you and him as at least a little pernickety, if not actually trivial, but here goes!

You will remember that he outlines four changes in the status of science which make it more necessary than in the past for science to develop a social conscience, or sense of responsibility. Let us look at them one by one.

In the first place, he maintains that it is relatively new for human beings to believe that they can interfere in the course of events on the basis of scientific knowledge. Certainly we do intervene more effectively than our ancestors did (both for good and for ill) but I am not sure that the idea of intervening is so novel. Even the Greeks didn’t limit themselves entirely to revealing and contemplating the eternal order. Both Plato and Aristotle as political scientists were interested in developing new and better ways of conducting state governments and Archimedes developed devises like irrigation pumps as well as his famous principle.
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Although there may have been somewhat of a lull during the so-called dark ages, by the 10th century men were beginning again to show a propensity to change the course of their lives by developing and applying new technologies particularly in agriculture, mining and building trades. Intellectuals were probably less interested in such matters than they are now, but by the 16th century, Sir Francis Bacon produced the classic case for using science to change the condition of man, and we in the Western world have been at it ever since.

I am not sure that I understand exactly how far Professor Edel means to go in his second point – that there is now no theoretical limitation to the scope of modern science. I have not kept up as well as he has with modern metaphysics but I am keenly aware of certain limitations in what I think of as the scientific method. Science is particularly concerned with describing uniformities or regularities in the way the universe behaves. But many of the things that make life worth living have an individual character, and here science doesn’t help us much. We may for example, use scientific knowledge in choosing our diet but unless we have become an absolute slave to science there comes a time when we choose oysters instead of tomato juice, simply because we like oysters better. Similarly and much more importantly, many people today are choosing to live in a completely unreal world induced by drugs simply because they like it better than the real one. Science may describe for them in considerable detail the differences which may result from two life styles exemplified by the melancholy mild eyed lotuseaters and the members of the house of Atreus, but it can’t tell the individual which he ought to choose.

I agree pretty much with what Professor Edel says about the ecological mode of thought. Indeed, I believe that this gives us a real opportunity for bringing science and the humanities closer together into a joint effort to produce a better world, and here I agree completely that the increasing power of science to alter the physical world imposes an increasing responsibility on science to explain to non-scientists what the alternatives are so that they can make wiser choices than they do now. But again, it cannot itself make the final choice since this depends upon the tastes of many individual people.

Finally, I believe that Professor Edel exaggerated the novelty of the current interaction between theory and practice in science. The ancient Egyptians are alleged to have developed astronomy at least in part to help them predict the rising of the Nile which was of course, the critical annual event in the agricultural practice which underlay their whole econ-
everyone has heard that Archimedes developed his famous principle in order to answer a question about the composition of the royal crown, and that the modern science of thermodynamics originated in some observations of Count Rumford on the heat generated by the boring of cannon.

For certain purposes, it is possible and even desirable to draw distinctions between pure and applied science, and in every age there have been snobs who have felt that it was nobler to work with the head than with the hands. But the two activities can never be entirely separated from one another. Certainly the degree of interaction varies from time to time and from place to place but it is by no means obvious to me that the general relationship is significantly closer today than it was 200 or even 2 thousand years ago.

I don’t really know what Professor Edel is driving at when he implies that there is something wrong about saying that the aim of science is “only to show which theoretical formulations are assigned with what degrees of probability on the basis of what evidence.” He contrasts this, you may remember, with something called the “pursuit of truth.” I have already admitted that my familiarity with modern metaphysics is seriously defective, but I persist in feeling that the kind of truth science produces is just the kind described in the first of the two phrases. As you see, my faith in the inductive method has not progressed much beyond Hume who said that we believe in scientific statements as a matter of habit.

Let us turn then to the development of social conscience. Although I agree, in general, with what Professor Edel has to say about this, especially in regard to recent times. As a somewhat tattered remnant of Calvinism, I must exercise the personal privilege of dissenting from his cheerful views about the disappearance of original sin and the development of the individual will as early as the 17th century. On the contrary, the 17th century seems to me to have been characterized primarily by terrible wars over whether man is saved from original sin by faith or by works, and even in the 18th and 19th centuries more people were probably influenced in their personal attitude by Wesley and Johnathan Edwards than by Rousseau and David Hume. I am sure, at any rate, that my own 18th century Calvinist ancestors would be most surprised to hear that the individual had become “increasingly an atomic will, exercising his choice and recognizing no obligation that did not issue from his will.” As I read the record, they and most of the people who set the tone of affairs in all but the most aristocratic circles were still under the spell of St. Paul and St. Augustine. Their wills were inextricably interwoven with God’s will and so-called voluntarist ethics consisted in willing to be governed by God’s will. Perhaps an anecdote from my own little
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New England village will illustrate how important God's will was as late as the end of the 18th century. It seems that about that time the local minister was a notorious drunkard who thoroughly neglected his pastoral duties. So bad did the situation become that some parishioners moved to dismiss him from office. The Elders of the church swiftly ruled the notion out of order on the grounds that it would be presumptuous of mere men to decide whether or not the Lord had granted the pastor grace, in spite of the deplorable "outward and visible signs." I go into this in some detail not simply to split theological hairs with our speaker. It may be worth while to reflect for a moment on the possibility that our essentially pagan, contractual society which in theory owes so much to the thinkers of the enlightenment has actually worked as well as it has because it has been operated, up to now, largely by individuals who could never quite free themselves from a sense of original sin and the need to do God's will. It may not fare so well if man really becomes the measure of all things, and one source of authority is as good as another.

As I said at the beginning, although I may disagree with some of the details of Professor Edel's argument, I do agree fully with its general conclusion, that "the responsibilities of the (scientific) enterprise are vastly greater and vastly more permeating in contemporary life than the consciousness of the scientist has hitherto generally yielded on isolated introspection." It remains to be seen whether science can develop ways of discharging these increasingly important responsibilities without pretending the kind of authority which it does not possess. For the present, at least, we simply must realize that science is much better at telling people what to do if they want to prolong life than deciding whether a long life is a good thing.

As we penetrate deeper and deeper into what Professor Edel calls the ecological mode of thought, we will find that almost everything we do benefits some people and impairs the quality of life for others. Science certainly has an obligation to show as clearly as possible what the results of a given decision will be. But the moment of truth will always be an act of balancing one group of individual preferences against another. I am still enough of a scientific atavist to believe that such decisions are essentially political and that there is still discernible difference between science and politics.