

On Sociobiology and Activism in Academia

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Q. *Do you see today's sociobiology 'boom' as a unique phenomenon in science?*

A. The importance of sociobiology is more political than scientific. From the standpoint of science, sociobiology has produced a great deal of speculation but very little in the way of empirical results with any lasting significance. In my own field of comparative psychology and physiology, for example, people use the same methodology as before the meteoric rise of sociobiology 'theory'. Considered politically, however, the matter is more complex. Edward O. Wilson and his followers have received so much publicity, and so much of it very reactionary, that sociobiology cannot be ignored. The impression has been given that human behavior is mainly determined by genetic factors, so that political efforts for social change are hopeless or, at best, severely hampered by a supposed inflexibility of 'human nature'. Anyone with even a slight knowledge of history knows, of course, that this pessimistic view is simply not true. The task for progressive scientists is to show that what we know about the biology of human nature is consistent with the ability of people to change their social system, with the ability of people to make their own history. To get this message across is very important, especially in the struggle for peace and equal rights. I'm looking for others to join in a massive fightback from the scientific community.

Q. *Let's go into your fightback plan later. First, how do you account for the meteoric rise of sociobiology in the scant six years since Wilson published his treatise on the subject?*

A. This is primarily a media event reflecting, of course, the class outlook of those who own and control the media. But there is a

background factor, a weakness in our whole system of biological education, of which few people are aware. It goes back to 1957 — to the time of Sputnik — when Congress began to appropriate huge sums for scientific education and research in order to "catch up with the Russians". Though part of the rationale for this spending was to boost our medical research, the basic rationale was always military. As far as I know, the National Academy of Sciences continues even now its long-time policy of testifying for larger scientific appropriations on the basis of strengthening the military. Because of this rationale, the government funding of science was one-sided. The physical and biological sciences were heavily funded while research on basic social problems was neglected. There has never been adequate federal funding or university support for cross-cultural research or truly analytic studies in sociology and economics, as opposed to superficial studies which take the present system for granted.

I know about this because I'm literally a child of Sputnik myself. I graduated from high school the year Sputnik went up and, for the next ten years, was totally supported by the government in my scientific education. Hence, I became a victim of the one-sided funding. Though I belong to the generation that has produced the greatest scientific output in the history of the world, I have had to look back and become aware of how it developed a false consciousness in me. Instead of learning about the interaction of culture and biology, I studied and did research only in biology. Most of my colleagues suffered from the same lop-sided education process.

Q. *Would you say that McCarthyism also helped foster this one-sided development and thus provided a social environment for the acceptance of sociobiology?*

A. Of course, McCarthyism laid the ground in the 1950s by effecting a virtual ban on comparative cultural studies, especially on the Marxist approach. This led to our lost generation of students who would learn a lot about biology and very little about society. When you combine this historical fact with the bias of federal funding towards hard science and away from social science research, then you get a cultural void in which the mass media operates. Add to this the bias of advertisers' influence on the mass media that stresses the status quo and opposes social change. All things considered, it's small wonder that newspapers and TV stress biological explanations rather than social explanations for human behavior.

Q. *And the void starts right at your own level, among the teachers and the researchers?*

A. That's pretty much the picture. I don't know many biologists who have done what I had to do recently, take myself out of the lab and read about crosscultural studies for the first time. This way I have learned some useful techniques of behavioral study for truly investigating the relation between the biological and the social. I'm

afraid the more usual outcome is that a scientist sees the chance for cheap publicity by jumping on the sociobiology bandwagon.

Q. Does sociobiology offer career opportunities for academics?

A. Yes and no. In applying for an NIH grant, it probably doesn't help that much to say you're a sociobiologist . . . but it may help you get money from certain rich foundations. It can help get a job in some academic departments (especially in the social sciences), and it sure helps in getting a book published. But I think it's a poor foundation for building a career, too much like putting up a house on shifting sands.

Q. Do you see any possibility of weaning the academic world away from the one-sided sociobiology craze?

A. It will take a long time to turn the tide. But I think it can be done if progressive scientists learn new ways of working together and also learn to be more sensitive to the political implications in their own research and publishing.

Q. Are you suggesting some kind of self-censorship?

A. Quite the contrary, I'm suggesting that scientists have to be more wary of some subtle forms of censorship they face. I learned about this the hard way. In 1979 I was principal author of a study, based on a questionnaire about women's sexual activity day to day, which demonstrated in quantitative detail for the first time that the human female has a period of estrus like other mammals. In other words, a woman's sexual activity tends to increase when estrogen levels are elevated during ovulation. While our study was designed to reveal this effect, the data also showed that estrus was weaker than other non-biological influences such as the 'weekend effect', a tendency toward greater sexual activity on weekends. We submitted our report to the *New England Journal of Medicine* in such a way as to emphasize only the part dealing with hormones, ignoring the social-cultural aspects of our study. The result was predictable. The hormonal factors got a great deal of publicity in media around the world while the cultural aspects, which appeared in less prestigious journals, were never cited or publicized.

Progressive colleagues have criticized me, and rightly so, for allowing the biological and cultural components of the report to be published separately, and thereby increasing the likelihood that the results would be misquoted and distorted in the media. We learned from this experience the importance of keeping intact the interactions of the biological and the social when we publish.

Even more basic, I have come to see, is the obligation to design the experiments in such a way that interaction of biological and developmental/cultural factors can be revealed clearly. Otherwise, we always run the risk that experimental results can be taken out of context and used to support an ideological bias. I had never realized the importance of such matters until I came to see how much

distortion can be introduced because of the 'sociobiology' bias toward the biological.

Q. Isn't a big source of such bias the emphasis in sociobiology on sex and especially the relative roles of male and female?

A. Obviously. Sex differences go over big with the media in the present political climate, what with the defeat of E.R.A. and the high rate of unemployment which creates competition for jobs between men and women. In particular, we see claims that women lack mathematical aptitude or spatial skills because of innate sex differences but these supposed scientific claims are based on data taken out of context or from isolated and unreplicated studies. Some people, of course, are looking for such differences for reactionary reasons. Other scientists lay themselves open to such misinterpretation of their work when they simply throw in sex as an experimental variable without regard to what they are studying, whether in animals or humans. And, of course, sex differences are found. To say that the sexes differ is hardly a discovery. But what is the purpose of the research? After all, the mere finding of a significant difference in a population is not the essential task of science. We could find differences between rich and poor people on just about every known physiological variable, but it would not be scientifically useful to demonstrate them all. Instead the purpose of science is to understand the mechanisms, the major causal relations and variables, of significant natural phenomena. The more I work in science, the more I am convinced that to understand the purpose of science we must study its function in society rather than in some disembodied abstract philosophy of science. I know that *Science and Nature* is devoted to this task and I hope to continue learning from it.

Back to the question of sex differences, it seems to me that some are trivial and are being exploited for regressive political purposes, while others are not trivial and need to be researched. For example, I have been investigating the question of why warfare is mostly carried out by men and not by women.

Q. Warfare would seem to be an activity where biological sex differences would clearly dominate.

A. Of course there are biological factors, but they are so obvious that they are practically trivial, and they still interact strongly with cultural factors. Warfare and hunting go hand in hand; they require the same weapons and skills, and the same mobility for long excursions. Women are not in as good a position to carry out these activities because a big part of their lives must be spent bearing, breast-feeding and otherwise caring for children. But note that this is a statistical tendency, a strong trend, if you will, not an all-or-nothing phenomenon. Some women do not bear children and they, presumably, are as physically capable of using weapons as are men. In fact, we find that in some primitive societies there are often some women

who go along to fight. The interesting question, then, is why this happens in some societies and not in others.

Q. Can it be just a matter of social conditioning, how they are brought up?

A. The problem is much more complicated than that. The answer seems to lie in a contradictory relationship between the social institutions of marriage and warfare. What we find is that in a majority of cultures that have frequent warfare, the marriage residence pattern is that of patrilocal exogamy, that is, marriage partners come from different communities, the wife going to live with the husband's family. The contradiction arises because, under such circumstances, there is a certain likelihood that warfare will find the husband and his community on one side, the wife's father and brothers on the other side — in which case, the wife would have split loyalties. Should she support her husband or her brothers? Historically, it seems, the simplest way to resolve this contradiction has been to exclude women from warfare altogether. Women are not allowed to attend the war-planning meetings, not allowed to own, make or even touch the weapons of war (nor, since they are often the same, the weapons of hunting), or even to sleep with their husbands in time of war. In one culture, the fingers used to pull a bow string are cut off from little girls, making it certain they cannot take up arms.

The power of this analysis emerges when we go on to consider those cases in which the marriage residence pattern is not one of patrilocal exogamy. If the marriage system is endogamous (marrying within the community) or if the warfare is exclusively external to the area from which wives are drawn in exogamy, then there is no occasion for split loyalties and women do sometimes take part in warfare. I have found this to occur in 25% of the cultures surveyed. By contrast, I found no cases of women taking part in warfare in those societies where the war might be fought against their own kin.

In sum, the important thing here is the interaction of the biological and the cultural factors. Taking this many-sided approach makes it clear that men do not have some kind of "war instinct" that is lacking in women. To the contrary, we can see that war is a cultural institution that interacts with other cultural institutions, and thus is amenable to change.

Q. Edward O. Wilson has a new book in which he argues that genes also determine culture [see book review, this issue].

How do you counter such a claim?

A. Again there is no reason to take Wilson's claims seriously from the standpoint of science. There is no direct correspondence of genes and behavior. His claims are, instead, ideological statements addressed to the mass media. When Wilson was cornered by a New York Times reporter, he admitted that biology could account for no more than 10% of the variance in social behavior while cultural

factors would account for the other 90%. This, of course, is not the ratio of emphasis given in the mass media.

Q. Recalling the essay by Engels on the role of labor in the transition from ape to man, I wonder if it's possible to see the actual biological roots for cultural behavior at the pre-human level?

A. Indeed, yes. Japanese workers have amassed a nice body of literature on the transmission of cultural behavior in the macaque monkey. They discovered an interesting law of cultural transmission in these primates which seems to apply also to humans: older males tend to be the most fearful of change—the most receptive to new behaviors and new objects are the young animals, with older females second. The usual order for developing a new behavior in a macaque troop is that it is begun by a very young animal and slowly picked up by others until, perhaps after several years, it is adopted by an older male, then the new cultural trait soon becomes locked in for the whole group. Once in a great while, however, an innovation will begin with an older male and then adoption by the whole group is very rapid. When we look at our own culture, we see that innovations of typical cultural traits such as slang, new clothing styles, changes in food habits, and so forth, all tend to be initiated by the young and then by women.

Q. And sometimes by minorities? By Blacks, for instance?

A. Yes, but there also it is usually the young who initiate things which are then passed along. Apparently this law of cultural transmission applies to all primates including us humans.

Q. What about universities as initiators of social change? Does the equation still hold here with regard to young and old, male and female?

A. I'd like to think academia is an exception but, generally speaking, it seems we follow the same primate pattern. Academics, especially the older males, have an amazing ability to speak but not listen, to teach but not learn. Marx knew about this. Somewhere he wrote that the professors would be the last to see how society is changing.

Q. Was he referring to the revolution?

A. It was just a general statement about professors. And it seems to be generally true on our campuses today. The activist who concentrates all his effort for social change in campus work is likely to get very discouraged. Most professors lack class consciousness or, better said, they have a false consciousness of their class interests. They tend to be elitist. They don't want to be considered workers. Instead, they consider themselves to hold a privileged status — which some of them actually have. It is no accident that the professors think this way. They are products of the academic tenure

track. It starts with the untenured who are afraid to speak out politically. Those who do speak out, especially the young Marxists, are usually denied tenure. So the general picture is one of political paralysis which tends to persist even after tenure is achieved. This selection process produces a backward faculty, not only isolated from the working class but even from the workers on their own campus. One result is that you find little correlation between Marxist "ideas" and activism. Those who talk Marxism in class or over cocktails are not necessarily the same as those who work for a faculty union.

Q. I'm reminded of Krupskaya's Reminiscences of Lenin where she recalls how Lenin reorganized the Russian Social Democratic Party in a fundamental way by forcing the discussion groups of intellectuals first to admit workers into their midst and then to let the workers take over leadership. That, of course, is how Lenin laid the basis for the revolution.

A. I'm afraid that most of my colleagues would not admit workers to their discussion groups. But we have to find ways to raise the class consciousness of academia.

Q. Does contact with colleagues in socialist countries help raise the consciousness of American academics?

A. Not as much as one might hope. When American academics meet their socialist counterparts, they're likely to feel they are meeting poor cousins, and there is some basis for this feeling. First of all, it's economics. The American academics are relatively rich. Socialist countries, like most other countries in the world, cannot fund science to the same extent. Secondly, the elite of the American academics are part of the ruling elite of our society. For example, the Vietnam War was really stage-managed by people like the Rostows and Bundys, from Harvard, Yale and Princeton. As far as I can tell, this privileged position is not matched in the socialist countries where the governments tend more to be run by workers rather than by a moneyed and intellectual elite.

Q. During your years of work in the Soviet Union, what have you observed about the quality of scientific work there?

A. It's all right. To my mind, in science you get what you pay for. If you put up a billion dollars, you get a billion dollars worth of science. If you put up a million dollars, that's how much you get. And it takes a long time. You've got to pay out for a generation. A scientific generation means the period of time you contract for bright students from high school through college. You train them with good professors (in this country we had good professors coming from Europe before and during World War II). You give graduate students their stipends and good laboratories and equipment. Then you give them positions with tenure. That's a full generation of almost 30 years — a lot of time and a lot of money. That's what

the U.S. had from 1957 to 1980. The Soviet Union had it, of course, but not to the same extent.

Q. You're speaking about your own area of brain research?

A. No, about research generally. The Soviet Union has made breakthroughs in particular areas of concentration, but the general size of their scientific establishment is just not as great as here. The U.S. is the world leader in science for that reason. Though ideology may influence science in certain ways (such as the fact that we have a biological rather than social emphasis on behavior), still and all, given a particular problem, ideology doesn't make that much difference. Building science is like building a house. Whether here or in the Soviet Union, it still costs so much in materials, in man hours, and so forth. After you work in science for a long time, the mystification is gone. It's good valuable labor, but it's just labor. The analogy with building a house goes further, in that a great many people have to take part. One individual doesn't do it; there are carpenters, electricians, and so forth. Also, the building materials have to be available: if you run short of gypsum board or copper plumbing materials, you can't build the house. The same is true in science; there has to be a broad, general advance in science so that all the components are there for scientific discovery. Part of the *malaise* now in the U.S. is that this is being dismantled.

Q. As the Soviet Union progresses, do you think they will invest more as we invest less?

A. They are very steady, actually. I don't think their budgets are changing much. What I have seen there in recent years is an emphasis on increasing the quality of education for science — I have a feeling that a lot of it has been poor quality — and a push to get economic payoffs from science in a shorter period — trying to make science more applicable.

Q. Don't you see science as a revolutionary force?

A. Not by itself. Even socialist science *per se* is not a revolutionary force. It is simply science in the service of a socialist society, and it is the society that is the progressive force.

What the Soviet Union can do for the visiting American like myself is to make concrete the fact that socialism exists; it's not going away; it's an irreversible event of human history. And it delivers the essentials. It's a society in which people have food, clothing, shelter, health care and a fairly decent level of education, certainly better than the U.S. And the people there understand better what's going on in the world than do Americans.

Q. Don't you think that science is revolutionary in its contribution to technology and the forces of production?

A. Yes, but it's an idealist notion that scientists become consciously political or revolutionary just by the fact that they serve a

socialist society. Laboratory scientists as such are not necessarily in daily contact with the masses of people, whether in the Soviet Union or in the United States. That makes an important difference in their consciousness.

Q. Then you don't expect that your research will contribute to political revolution?

A. Not directly, but I'm beginning to feel that I should use my knowledge to influence the media. Scientists in general should develop a positive relationship with the press in order to communicate with the public. The press is not an impervious monolith. The same struggle goes on there as everywhere else. There are good people in the press and there are turkeys. Of course there is a hierarchical organization of the press with a conservative administration at the top, which is ultimately dependent on the advertisers. But even there it is not impervious. It's possible to get to know media people who will publicize a progressive point of view. Sometimes you can even help neutralize the reactionary publicity by setting yourself up as a consultant so that media people will call you, say, before they write about Edward O. Wilson. This needs to be done especially through formal committees of scientific organizations — media committees, ethics committees, or whatever.

Q. Can this be done at the university level?

A. I think the natural way is along professional lines. But we've had university groups in the past. During the Vietnam war, we had a Science Action Group at Yale which was effective because it was a part of the larger mobilization against war. That kind of thing will happen again, given the economic crisis, El Salvador, and so forth. I think we will see mass struggles to an extent that we haven't seen in a long time, and this will eventually involve the university people, including scientists. You must have some of that same feeling about your journal.

Q. Well, we're getting Science and Nature on more and more campuses. And we believe it will spark some Marxist thinking. Even though the journal sticks pretty close to the professional interests of natural scientists, I think that it also helps raise consciousness in a way that will eventually lead to the involvement of more scientists in the political struggles of this tortured land.

A. The key word there, I think, is "involvement." To make our professional work relevant, we scientists need to understand the role of this work in history. This means that we have to get involved in movements for social change that extend beyond the borders of the university. We have to learn from personal experience how popular pressures can influence events. This way we come to know how activism is essential to keep theorizing honest.

Q. That's been true for me. I wouldn't really understand the dialectics of science without my years of rank-and-file work in politics where I could see after awhile how dialectical changes actually occur. But tell me how your political activism affects your professional life.

A. First of all, I have become more and more involved in broad social movements outside of academia. This has given me a much better perspective on the significance of my work and on the problems of combatting the propaganda of sociobiology. Working in the peace movement and in local electoral politics, I see that people are really searching for answers to the big questions. They want to know: "Is war inevitable?" "Are we capable of developing economic and political alternatives to the present mess?" They realize that biology is important, but is it so fully determinate that it warrants pessimism about social change? Because of my professional work, I can give definite answers to their questions. I show them how biology and culture interact. I emphasize that humans are unique in their ability to create and re-create their own "human nature" many times over in their historical development from one culture to another in the repeated process of social revolution.

Q. That's how you use professional knowledge in your external activism. But how does your external activism affect your professional activities?

A. That's my second point. I engage fellow scientists and academic colleagues in the same pursuit, trying to involve them through professional organizations in work that relates to mass movements outside the ivory tower. For example, I recently published a paper calling on others in aggression research to get more directly involved in influencing the mass media and government agencies, and suggesting that we should all be working directly with community activist groups. Related to this, I have made changes in my own research work as I described before, choosing the topics of my research more carefully and trying to design research studies so that they will be more relevant to the kinds of questions that people ask who are involved in movements for social change.

You see, I am concerned about working with people who are already active — the people in the nuclear freeze movement, in the fight against Reaganomics, in the civil rights movement, and in the trade union movements. I think we should help them understand clearly both the biology and the sociology of "human nature."

Q. Do you think we need a polemic on this subject directed against Edward O. Wilson in the style of the polemics by Engels against Dühring and Lenin against Bogdanov?

A. My preference at this point is to talk about the issues rather than the individual proponent. The people I want to reach don't

care about Wilson or the sophistry of his arguments. But they do need to be able to analyze the media stories and explain these matters to the general public, combatting the pessimism on human nature that is so corrosive, undercutting the faith of working people in their own abilities.

Q. And how do you propose we approach the media?

A. As you know, the sociobiologists have their own direct contact with the media. Wilson, for example, has the Harvard PR system at his beck and call. Well, we should be able to fight fire with fire. I propose that we set up committees within our professional organizations that are dedicated to the defense of human nature from its detractors. Those of us who contribute the majority of active people within an organization such as the AAAS should have the ability to call our own press conferences and confront these issues directly.

Q. What kind of response are you getting in academia?

A. I find that there are a fairly large number of academics already working in popular social movements. And there are more ready to do so when approached. It does take time for us to find each other. But once we have a critical mass of academics with links to the mass movements, you're going to see some changes in the relationship of science to the public. □