

SHOULD SOCIAL SCIENCE BE SCIENTIFIC?

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ABSTRACT: Sven van de Wetering of Simon Fraser University has published in the current issue of this journal a response to my article in the August 1995 issue entitled *Is Social Science Scientific?* Van de Wetering's article, *Is Social Darwinism Scientific?*, raises three objections to my analysis: (1) the gulf between non-evolutionary and evolutionary social science is exaggerated; (2) the idea that the effect of the principle of selectivity on human behavior must be mediated through psychological adaptations is neglected; and (3) incorrect conclusions about the effect of natural selection analysis on political consensus are drawn. In reply, I discuss van de Wetering's second objection first, since it goes to the mechanics of selection in the human cultural context, and then his first and last objections. I contend that culture is a selective adaptation that should be studied with an emphasis on its vast potential for individual variation; that there is a very deep epistemological distinction between analyses of social issues based on natural selection and ideology; and that public policy based on a natural selection analysis of social issues would have very different selective effects on individuals than policy based on various ideological analyses.

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Culture and Human Behavior

Human culture is an adaptation that allows self-reflexive responses to selective influences. Note that the operative verb is "allows" not "demands". Note further that the noun "responses" does not imply that those responses are themselves selective, or even that they constitute an improvement over the previous pattern of behavior.

Culture, in the sense of information relevant to behavior that is stored in the neurological system and shared with conspecifics, has developed in many zoological circumstances, including among invertebrates (Fiorito and Scotto, 1992). Hence, even though culture can be said to dominate behavior only among certain primates, its phylogeny clearly indicates that culture is an adaptation no different

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conceptually than, say, flight through the air by insects and birds. The primary adaptive advantage of culture over genetically encoded behavior patterns is that it can be changed during the lifetime of the subject organism. That self-reflexive characteristic imparts a marvelous lability to culturally mediated behavior. The changes in human life over the past fifteen thousand years seem to be an obvious consequence.

Like the ability to fly, the self-reflexiveness of culture has only selective potential. It does not mandate selective behavior; it simply makes it possible. The individual person can use that characteristic to find a mate, to kill a mate, to earn money, or to waste money. All options in the vast store of human potentials are exercised, and they have been exercised as long as we have a record of human behavior. Hence, it can be inferred that specific human acts, to use van de Wetering's language, may be directly motivated by selective effects, may be the result of "special-purpose Darwinian algorithms", and/or may follow from "a general human rationality coupled to a very basic motivation to enhance inclusive fitness." (van de Wetering, 1997).

As we observe the interaction of human behavior with the actors' natural and social environment, we find that most people, most of the time, act in a fashion that is not just non-suicidal - it is positively selective, in effect. The motivation for individual behaviors are myriad and difficult to classify, as any clinical psychologist, pastoral counselor, lawyer, or parole officer can attest. Moreover, while a great deal of human behavior is culturally based, some behavior has a genetic basis. All we can really say is that people generally seem to find their way to outcomes in life that involve their survival and, in varying degree, their reproduction. We might observe that, if a person is Danish and has lived all her life in Copenhagen, she probably has different specific responses to various common human problems than a contemporary woman who has grown up in a village in the highlands of Papua; but, on the other hand, the odds are in heavily favor of both sets of responses being at least marginally selective in their respective natural and cultural environments.

On the basis of such observations, I would assert that human culture is an adaptation that has been proven to have positive selective value. I would prefer to let experts such as van de Wetering explain how different psychological adaptations operate. The specific patterns, while interesting and important, are not relevant to my point: human

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culture is a successful adaptation that produces individual human behavior which is (1) highly varied and (2) constrained by the actors' natural and social environment in ways that create differential selective results.

Natural Selection as a Truth Test

Van de Wetering finds it is "obviously inconsistent to assert that natural selection is independent of an ideology entailing moral judgments, and then to assert that it undermines an ideology entailing moral judgment . . .". In the following discussion I hope to show that a system of validation based on empirically determined outcomes is independent from one based on ideologies, in the normal sense of the term "independent"; and that where a natural selection analysis shows something is invalid that an ideology claims is valid, then, if the natural selection analysis is accepted, the ideological analysis is undermined.

Natural selection can take many forms. It is a principle which allows biologists to determine how species arise and disappear. On a larger scale it permits the entire history of life to be explained in common terms. But natural selection also has an epistemological function that has been investigated by, among others, Nicholas Rescher. In the second chapter of *Methodological Pragmatism*, Rescher translates a comment by Montaigne: "To adjudicate [between the true and the false] among the appearances of things we need to have a distinguishing method (*un instrument judiciaire*); to validate this method we need to have a justifying argument; but to validate this justifying argument we need the very method at issue. And there we are, going round on the wheel." (Rescher, 1977, p. 17).

I would contend with Rescher that any ideologically based system of determining whether something is true or false, good or bad, is ultimately founded on a set of assumptions about reality that logically entail a specific set of conclusions. An ethical system that holds egalitarianism to be an unchallengeable good will tend to produce judgments in favor of egalitarianism. Selective truth tests, on the other hand, are very different. At the level of specific culturally mediated human action, the selective criterion is whether, as a matter of observed fact, the desired result occurs. For example, it is said that in ancient China shamen encouraged people to shoot arrows at a solar eclipse. A natural selection based explanation would claim the custom

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remained for generations in the local cultural algorithm because the desired results occurred: from the perspective of the skeptical, public hysteria was calmed; from the perspective of the believers, the sun shone again. Alternative ideological explanations for the persistence of the custom, based on ancient Chinese religion or Marxism, would point to divine intervention or class oppression, all in accord with the basic assumptions peculiar to those ideologies.

On a more general level, the selective explanation would hold that the custom of shooting arrows at eclipses persisted because, as a matter of observation, societies characterized by confidence tend to pass on more genes to the next generation than those characterized by hysteria and panic. The selective inquiry involves a strictly materialistic investigation of observable facts and their apparent causal relationships, ultimately founded on the unprovable assumption that reality can be accurately, but not perfectly, perceived by individual humans. Ideological explanations seem entirely different. They explain why things happen, and the way things should be, based on non-challengeable assertions such as a divinely ordained moral causality or a secular causal process founded on class conflict.

Van de Wetering notes that ideological systems can found their basic assumptions on "observed regularities" rather than moral judgments. I would reply that if a system of analysis is based on the correlation of assertions of truth with observed reality, then that system is employing a natural selection truth test. It doesn't matter where the assertions come from, as argued above in my reply to van de Wetering's second objection. Further, it doesn't matter whether, based on the source of the assertions, the proponents claim they are Marxists, Taoists, or Baptists. The key distinction, in my mind, is between correlation of assertions with observed regularities and correlation of assertions with axioms or propositions deduced from axioms. The former denotes a natural selection analysis; the latter denotes an ideological analysis.

The difference then between social science based on selective explanations and social science based on ideology is very sharp. It goes to the epistemological roots of the respective intellectual methods, and it entails the distinction between the empirical and the ideal. In one case, the validity of a thing is tested against what happens; in the other case it is tested against what is said to be true.

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The Selectivity of Ideology, And its Limits

Van de Wetering's final criticism focuses on an issue raised in my original article: why expend unreciprocated altruism on strangers? This is an important matter. The *London Economist* (September 20, 1997, Survey of the World Economy, page 8) estimates that government transfers and subsidies amount to about one-eighth of the United States economy and almost one quarter of the British economy. The fundamental problem is that the redistribution of wealth in modern societies tends to be counter-selective for a number of people, particularly net producers, while it is selective for others, particularly net consumers.

Such redistribution meets the test of truth and justice if the method of analysis is based on various traditional and modern ideologies, secular as well as religious, which are founded on the principle of egalitarianism. Naturally, redistribution advocates tend strongly to promote those ideologies. Hence, the whole idea of applying selection analysis to social science problems gets drawn into a very important and often bitter contemporary political controversy.

In modern societies, unreciprocated altruism usually involves governmental transfers of wealth from net producers to net consumers. To answer van de Wetering's question, net producers are individuals or family units that produce more selective value than they consume. In modern America and Canada, one normally measures selective value in monetary terms. Important functions are of course performed outside the money economy, as by a mother who stays at home to care for her children and otherwise to maintain a household. But from an accounting standpoint the stay-at-home parent's productive efforts are usually equally balanced by the reproductive and maintenance results. Hence, to approximate a family's or an individual's status as net consumers or producers one would ask the following question: Does the family (or individual) earn from a job, investments, etc. as much or more money than they, he or she elect to spend in a given time period?

Normally, that simple measure makes it pretty clear who is pulling their weight in modern societies and who is not. The difficulty comes when the income source itself may represent a transfer payment. For example, one could argue either that the person who is paid to dispense food stamps is no more productive than the food stamp recipient; or, alternatively, one could argue that dispensing food stamps

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prevents crime that would be committed by otherwise starving people, and thus is a productive maintenance function, in effect an alternative to police work. Or one could point out that the boss' mistress really can't type even though she is on the payroll as a secretary; but then how would you like to live with the boss as an employee, or get dividends from the corporation if you are a stockholder, if she wasn't around to keep him happy? Or perhaps Harvard University has no students studying Akkadian this year, but it pays salaries to several faculty members whose only expertise is in that area so they can perform research and teach any students who may appear in the future.

Politicians, directors of private corporations, and the trustees of colleges and universities constantly have to wrestle with the kind of questions raised in the preceding paragraph. To what extent should we choose food stamps over police; should the boss be fired or retained with his mistress or persuaded to stay on without her; should the study of Akkadian be underwritten by Harvard at the expense, say, of student psychological services (Thernstrom, 1997)? Proper resolution of these issues is important for the functioning of both individual institutions and modern societies as a whole. I think both van de Wetering and I would agree that they should be resolved with reference to a cultural algorithm that enjoys popular support and yields consistent, selective results.

It may be that these kinds of issues can not be successfully addressed in terms of traditional religious and secular ideologies, however much those ideologies are reanalyzed and reinterpreted. Traditional ideologies have difficulty dealing with distribution of selective value in a modern context because the way selective value is created has changed radically over the past two hundred years. We no longer collect selective value contained in the bodies of plants and animals and distribute it to relatives on the basis of genetically based altruism, as did hunter-gatherers. Nor do we artificially stimulate the production of that value as did people between the neolithic and the industrial revolutions, distributing it through a network of hierarchical arrangements under which the performance of economic functions and the receipt of economic benefits were matters of duty and right, not choice (Polanyi, 1977). For most people in countries like the United States and Canada, selective value is now created by application of individual physical and mental effort to incomprehensibly complex processes ultimately powered from abiotic sources.

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The key question is how should that value be distributed. I suggest that its allocation can no more be mediated by traditional rules than could England in the lifetime of William the Conqueror be governed by the laws of the San. The reasons are complex, but can be summarized as follows. It seems quite adaptive, in selective terms, for people with a stable life way to adhere to "special-purpose Darwinian algorithms" (van de Wetering, 1997) that enjoy the status of unquestioned truth. Hence, the mores of hunter-gatherers and the complex ethical systems of traditional societies fit my definition of an ideology. The logic supporting those ideologies was simple. If a cultural algorithm has proved to be selective in the past, and if present conditions are essentially unchanged, then why not stick with rules that work? And further, why even allow debate on the point? All that does is give chiselers a chance to evade the rules.

These ideologically based cultural algorithms served people adequately until the full implications of industrialism became manifest in this century. Individual economic roles and patterns of consumption in primitive and traditional societies were stable not just across lifetimes but over generations, so fixed duties and rights made sense; now people may have to shift economic roles several times in their working careers, and the way people consume wealth may change radically over a couple of decades. As a result, the traditional solutions may in turn have to be replaced, not merely revised, in the sense that the unitary world views of medieval Hinduism, Buddhism, Judaism, Christianity, and Islam represent cultural algorithms wholly separate from the algorithms of the now vanished collectors (Mensching, 1964).

To further complicate the matter, the more radical modern responses to this challenge have proven unworkable. Some, to quote van de Wetering, "play havoc with the incentive structure of the labor market" by denying that the price of labor should be determined by the market. Others involve exploitation of one group of people by another on the basis of race and class. The price paid in blood for the failures of Communism, National Socialism, fundamentalist Islam, and other secular and religious ideologies is a stark reminder that we are not engaged in a mere academic exercise. Ideological constructs sometimes have horrific consequences in the real world. To cite one case, in the late 1950's professors at the Sorbonne awarded an academic degree to a future leader of the Khmer Rouge based on his dissertation advocating deurbanization of Cambodia.

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Conclusion

The people most qualified to resolve this problem are professional academics, men and women who have dedicated their lives to understanding our physical and social environment. Yet, when faced with this challenge, I fear many academics are unduly hampered by the weight of once selective but now non-selective traditional ideologies or their failed twentieth century substitutes. For these reasons, I join with van de Wetering in the hope that new possibilities based on a natural selection analysis will be given a fair hearing. He and I seem to disagree mainly in our assessment of the tool itself. In my judgment, analyses of social science problems based on natural selection are radically different from those based on ideological systems. If I am correct, then the implications of that difference should be made clear so that the use of natural selection analysis will not cause the kind of unintended consequences perpetuated by the Khmer Rouge.

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