# Stable Values and Variable Constraints; the Sources of Behavioral and Cultural Differences

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ABSTRACT. If all differences in behavior are explainable in terms of universal values pursued under variable constraints, then much ethical theorizing is pointless. A strong presumption in favor of universal values can be established by showing that differences in behavior that were previously thought to be explainable only in terms of differences in values, can in fact be explained in terms of differences in constraints. Eleven such cases are briefly discussed, including cases of differences among racial, religious and other groups in crime, culinary practices and the acceptance of innovation.

Ethical theorizing is an activity directed towards the achievement of ends. Conversing with ethical theorists and reading ethical theories reveals that there are three main ends of ethical theorizing:

(1) to make the world a better place;
(2) to learn how to live one's life; and
(3) to maximize the truth.

Several sorts of considerations might be relevant for deciding how well ethical theorizing can achieve its aims. A Kuhnian, for instance, might emphasize that in ethics the lack of concensus on fundamental issues is clear evidence that no progress has been made.[1] In answer, the optimistic ethical theorist can argue that 2000 years of past failure tell us nothing about the prospects of future success. Such optimism, though unanswerable from a Kuhnian perspective, is not beyond the pale of rational evaluation. If the success of ethical theorizing depends on people having certain characteristics, then the absence of one of these characteristics would both explain the *past* failure of ethics and predict the *future* failure as well. One such characteristic concerns fundamental human values. In particular, for ethical theorizing to achieve its ends, values must differ among persons and be changeable for any one person. To justify this claim, it must be shown that whether the aim is to better the world, learn how to act, or maximize the truth, ethical theorizing cannot be successful if human values are universal and stable.

Consider the first aim. If we hope to improve the world through ethics it can only be that we believe people act badly because they have the wrong values. We must further believe that through ethical theorizing we can convince them to have the right values. But if values are universal among all men, then it is not possible to explain the 'bad' actions of some people on the basis of their 'bad' values. Similarly, if values are stable for each individual, it would not be possible to stop his bad actions by convincing him to change his values. Thus, the universality and stability of values would imply the ineffectiveness of ethical theorizing at achieving a better world.

Now consider the second aim. If we hope to learn to act through ethical theorizing, it can only be because we believe that our ignorance of how to act is due to our not knowing what values we should pursue. We must further believe that through ethical theorizing we can become certain of what values we ought to pursue and then proceed to adopt them. But if our own values are stable, then our uncertainty about how to act is due, not to uncertainty about what values to pursue, but rather to uncertainty about the consequences of actions. Thus the universality and stability of values would imply the ineffectiveness of ethical theorizing in telling us how to act.

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Finally, consider the third aim. If we hope to maximize truth through ethical theorizing, it can only be because we believe that ethical theorizing establishes the proper values by which men should live their lives. But as has often been noted[2] 'should' implies 'can'. If values are universal and stable, then any ethical theory that espoused values other than those people actually held would be false and any that espoused the universal and stable values would be redundant (in that it would tell people to value what they must value anyway). To put the issue in Kantian language, if all human behavior can be explained in terms of maximizing universal values under varying constraints, then it follows that 'pure reason' cannot be 'practical'.[3] The truth cannot be maximized through ethical theorizing if all such theorizing rests upon a factually false view of human action. Thus the universality and stability of values would imply the ineffectiveness of ethical theorizing for maximizing the truth.

The ethical theorist may admit that his enterprise would be doomed to failure if all values were universal and stable. Yet the admission will not disturb him, for he will view as absurd the claim that all values are universal and stable. In this view the ethical theorist is mistaken.

A growing body of research, mainly within economics, indicates that values are indeed universal and stable. The research consists of cases where differences in behavior previously thought due to differences in values, are shown instead to be due to differences in constraints. The evidence can never be conclusive so long as there remain unexplained differences in behavior. But as the list grows of successfully explained differences, the presumption likewise grows that all such differences can be explained in terms of differences in constraints. Emboldened by the explanatory successes of economics, distinguished economists Gary S. Becker and George J. Stigler have defended the universality and stability of values in an article entitled 'De Gustibus Non Est Disputandum'.[4] The impression that the thesis of 'De Gustibus' is absurd can be countered by a concrete though hypothetical illustration.[5]

The Smiths and the Joneses are two couples identical in every respect expect that the Joneses have children and so have to pay $5 for a babysitter every time they go out to eat. In particular, each couple is assumed to have only two values, ritzy restaurant meals and ethnic restaurant meals. In the language of economics, each couple's level of utility over a period of time is a function only of the number of ritzy restaurant meals ($R$) and of the number of ethnic restaurant meals ($E$) they consume. In symbols:

$$U = R^3 \cdot E$$

This function incorporates the added assumption that, other things equal, both couples prefer a ritzy meal to an ethnic one. Since there is no absolute unit of utility, the particular form of the function is chosen only for its simplicity from among an infinite class of functions that all represent the same ordering of combinations of $R$ and $E$. For instance, apart from inconvenience, $U = 2R^3 \cdot E$ or $U = R^3 \cdot E + 4$ could have been used.[6]

The utility function specified is characteristic of economic analysis in that it does not include all of the values that people actually pursue. Rather it explains a choice between particular alternatives by simplifying the situation so that only the values most relevant to that choice are considered. In the present case we seek to explain the number of ritzy and ethnic meals that the families choose to consume. So the utility function explicitly takes into account only the values directly relevant to this choice.

Without constraints, there are no finite values for $E$ and $R$ that result in a 'highest' level of utility. In fact, however, all families have income constraints. Such an income constraint limits the number of combinations of $E$ and $R$ that a couple can purchase. Within this possible set there will be one value for $E$ and one for $R$ that will result in a higher level of utility for the couple than any other combination.

Assume that ritzy meals cost $20 per couple and ethnic meals cost $5 per couple. The Joneses, of course, must add $5 to each figure for the cost of the babysitter. Further assume that each couple has an income of $100 a month. Thus the income constraint for the Smiths is:

$$100 = R(20) + E(5)$$

while the income constraint for the Joneses is:

$$100 = R(25) + E(10).$$

Given these constraints, let us first ask how many ritzy and how many ethnic meals the Smiths will consume each month. From differential calculus we know that the first order condition for a maximum is that the rate of change of the utility function be zero. If we solve the Smith's income constraint for $E$ we obtain:

$$E = 20 - 4R.$$

Substituting the right hand side of this equation for $E$ in the utility function we obtain:

$$U = R^3(20 - 4R) \quad \text{or} \quad U = 20R^3 - 4R^4.$$

The first order condition for a maximum is then:

$$\frac{dU}{dR} = 0.$$

Since $dU/dR = 60R^2 - 16R^3$, then $60R^2 - 16R^3 = 0$. Solving this equation for $R$ we obtain $R = 3.75$. To obtain the optimal value for $E$ we substitute 3.75 for $R$ in the earlier-derived equation: $E = 20 - 4R$. This gives us a value for 5 for $E$.

The calculations for the Joneses are of the same form as those done for the Smiths. If we solve the Joneses' income constraint for $E$ we obtain:

$$E = 10 - 2.5R.$$

Substituting the right hand side of this equation for $E$ in the utility function we obtain:

$$U = R^3(10 - 2.5R) \text{ or } U = 10R^3 - 2.5R^4.$$

the first order condition for a maximum is:

$$\frac{dU}{dR} = 0.$$

Since $dU/dR = 30R^2 - 10R^3$, then $30R^2 - 10R^3 = 0$. Solving this equation for $R$, we obtain $R = 3$. To obtain the optimal value for $E$ we substitute 3 for $R$ in the earlier derived equation $E = 10 - 2.5R$. This gives a value of 2.5 for $E$.

Note that for the Smiths $R < E$ while for the Joneses $R > E$. The casual observer might conclude from the behavior of the two couples that the Joneses preferred the ritzy restaurants to ethnic ones, while the Smiths preferred the opposite. In addition, our economically naive observer might also conclude that the Smiths valued restaurant meals more than the Joneses, since the Smiths ate out more often.

But we now know better. The preceding calculations have demonstrated that the observed differences in behavior are consistent wih the two families having precisely the same values.

The restaurant example, by illustrating the sort of analysis used in the 'De Gustibus' research program, clarifies the intent of the program and shows that it is not on its face absurd. But the illustration by no means establishes a presumption in favor of the view that all differences of behavior are due to differences in constraints. What is required is a list of several significant real-world applications of the method.

## Case 1

Hybrid corn was accepted more quickly in the North than the South. Sociologists implied that this was due to different cultural values in the two regions. Northerners were viewed as placing greater value on material acquisitiveness while the southerners were seen as placing greater value on leisure and gentility. The vision conjured up is one of the northerners busily developing hybrids while the southerners sipped mint juleps on their verandas. Harvard economist Zvi Griliches rejected this vision in favor of the view that northerners and southerners were alike in valuing money income.[7] In order to explain the different rates of acceptance of hybrids, he sought to find how the constraints facing the two groups differed. What he found was that in the North it was profitable to invest in hybrids earlier than it was in the South. A different hybrid had to be developed in each region, at a high initial cost. In the North soil and climate were especially suited to growing corn, so corn was often grown exclusively and extensively. In the South the climate and soil supported a much wider variety of crops, so the percent of land devoted to corn was much smaller. Where more acres of farm land were devoted to corn, the costs per acre of corn were smaller and the total

benefits (which equals the increased productivity per acre times the number of acres devoted to corn) were larger. Thus a difference in behavior that had been explained in terms of differences in values was in fact explainable in terms of different constraints.

### Case 2

Thomas Kuhn in *The Structure of Scientific Revolutions*[8] emphasizes that scientists sometimes disagree on whether an old theory should be replaced by a new one. Kuhn argues that those who accept the new theory have a different set of explanatory values than those who continue to accept the old theory. Different explanatory values in turn lead the disputants to different conclusions about what questions are meaningful and what answers sound. Incommensurability of theories results, with devastating consequences for the rationality of science. These consequences can be avoided, I argue in my dissertation,[9] if the program of 'De Gustibus' is applied to the behavior of scientists. I argue that because of the different sorts of activities they are involved in, different scientists will have different degrees of information on the explanatory power of theories. If the new theory is a good one, those with more information will accept the new theory sooner, even though both the acceptors and the rejectors share the same intellectual values. Thus it is possible to account for the phenomena emphasized by Kuhn without abandoning the universality and stability of scientific values.

### Case 3

Traditionally in anthropology, the structure of primitive societies has been classified as matriarchal, patriarchal or a mixture of the two. Implicit in the classification is an assumption that the categories represent fundamental cultural types based on different values. Contrary to this assumption, anthropologist-economist Harold K. Schneider has found a very high degree of correlation between the size of the average brideprice and the degree to which the society is patriarchal:[10] the higher the average brideprice, the more patriarchal the society. In the commodity-money societies that he studies, the size of the brideprice depends largely on transaction costs. The brideprice is high where there are highly transportable, high-value assets (cows) and low where there are no such assets. Thus Schneider has shown that the fundamental typology of anthropology can be explained in terms of differences in constraints without any need to posit differences in values.

### Case 4

The fourth case focuses on a well-known feature of medieval and primitive farming: open fields. In medieval England each village would typically have three or so large fields each of which was on a rotating basis either planted entirely with a particular crop or left fallow. Each farmer would have title to a few small, widely separated plots in each field. In terms of total village productivity, these separated plots were less efficient than having each farmer's holdings joined together. One common explanation is that the medievals had different values than we do. According to this line they were more concerned with 'community' values than they were in productivity. But recently Donald McCloskey has shown that open fields were a form of insurance against the vagaries of weather.[11] For example, low land is most productive in dry weather and high land in wet weather. A man with all his land together in one location would be likely to have entirely one sort of land. So if he had high land he would starve in a dry year and if he had low land he would starve in a wet year. To protect themselves, farmers had separate plots of different altitudes and soil types. This system lasted until improved total productivity, storage and transportation provided other forms of insurance. Thus McCloskey has shown that open fields can be explained without assuming that the medievals had different values.

### Case 5

It is often noted that Jews are prominent in occupations that require a high-level of education. Sometimes this is explained as a result of the greater intellectual acuity that results from the reading of the Talmud. More often, however, the prominence is explained as due to the greater emphasis Jewish cultural values place on education. Expanding on a suggestion of Reuben Kessel's,[12] Reuven Brenner and Nicholas Kiefer argue to the contrary, that the differences in Jewish acquisition of education are due not to Jews having different values but rather to them facing different constraints.[13] Specifically, they claim that greater investment in education is a rational response to persecution since human capital is less easily seized than physical capital. The authors have tested their theory by looking for some other group that has undergone persecution in the sense of seizure of lands. They examine refugee Palestinians and find that they invest much more heavily in human capital than do native non-refugee Arabs. Thus Brenner and Kiefer have shown that a difference in behavior that was explained in terms of differences in values is in fact explainable in terms of universal values and differences in constraints.

### Case 6

The higher rates of alcoholism, prostitution, gambling, and crime among blacks have often been attributed to different cultural values. However, economist Thomas Sowell in his *Race and Economics*[14] shows that similar claims of perverse cultural values were used decades ago to explain the high rates of alcoholism, prostitution, gambling, and crime among the Irish and other ethnic immigrants. What Sowell finds is that every immigrant group (with the exception of the Jews) suffered from similar social ills during the first couple of generations after arrival here. This he attributes to the strains arising from adjusting to a new language, new techniques of earning a living and new physical surroundings. Sowell also finds that after three or so generations every ethnic group has risen above the earlier social ills. Poverty and dislocation, rather than differing values, appear to explain why blacks and the immigrant poor behave differently than the established middle class.

### Case 7

The presence of systematic cannibalism in some societies and its absence in others was the focus of a recent clash between anthropologists Marvin Harris and Marshall Sahlins. Harris,[15] relying on the work of Michael Harner,[16] had argued that the cases of systematic cannibalism, most notably the Aztecs, were explainable in terms of basic human nutritional needs. These needs (or 'values', in our terms) were claimed to be universal. The Aztecs differed from noncannibalistic societies, not in nutritional needs, but in the constraints a large population had placed on the ability of agriculture to meet the needs.

Sahlins,[17] relying partly on the work of Bernard R. Ortiz de Montellano,[18] noted that mainly the upper classes partook of human meat and also that cannibalism often took place when supplies of nutritionally adequate corn and beans were ample – both facts making dubious the claim that cannibalism had been the result of population induced malnutrition. From this, Sahlins concluded that the diversity of cultural values he had argued for in *Culture and Practical Reason*,[19] was in no danger of empirical refutation.

Sahlins is wrong, however, in equating the failure of the nutrition explanation with the failure of the hypothesis of universal values. What Sahlins failed to foresee was that a model can be developed[20] consistent with universal values, that is immune from the Sahlins-Montellano critique. According to the model, what is universally valued in food is, not just nutrition, but both nutrition and taste. Thus whether human meat is consumed will depend not just on whether there are cheap nutritional alternatives to human meat (e.g., corn and beans), but also whether there are cheap taste alternatives (e.g., cattle or abundant wild game). For the Aztecs, besides very limited supplies of fish, turkey, and deer, the taste alternatives to meat were cricket

larvae, water beetles, chihuahuas, armadillos and cakes of lake fungus.[21] Where the taste alternatives were more palatable and more cheaply available, usually in the form of large domesticated animals, cannibalism would not be observed except in emergency starvation situations. Thus, as the model would predict, one does not find systematic cannibalism among the Europeans, who had cattle, nor among the Peruvian Incas, who had llamas.

The model has not yet been subjected to a systematic test using the cross-cultural resources of the Human Relations Area Files,[22] but casual checking seems to indicate that it holds promise. The main remaining difficulty for the model is how to explain why some societies when faced with no cheap alternative meat become vegetarian rather than cannibal. Two main regions have adopted widespread vegetarianism: India and China. In both cases, plausible, but as yet purely speculative, accounts can be given about how differences in constraints rather than values, explain the vegetarianism. The speculation on India emphasizes the generalization that no society has systematically eaten its own members. Apparently the costs in terms of lost social order always outweigh the benefits in terms of taste for meat. Therefore, if societies in India were to be cannibalistic they would have to be eating members of other neighboring societies. But William McNeill has argued that neighboring societies in India constituted distinct disease pools.[23] Any substantial interaction between the different pools might result in one or both societies being wiped out. If, as McNeill believes, the disease pools account explains castes, then a fortiori it would explain the absence of cannibalism. On the other hand, where cannibalism was systematic, as among the Aztecs, one would expect to find that neighboring societies shared similar climates and hence were part of the same disease pool. In fact this appears to have been the case.

Vegetarianism in China may be partially explainable in the same terms as India, but an additional factor may also have been important. In China techniques had been developed by which beans could be made to taste very much like meat. Thus for the Chinese, unlike the Aztecs, beans were not just a cheap nutrition alternative to meat, but also a cheap taste alternative. If these explanations of widespread vegetarianism can be more fully worked out, then the economic model of cannibalism will provide one further case of divergent behavior being explainable in terms of universal values and divergent constraints.

## Case 8

Criminals are often thought to have fundamentally different values from law-abiding citizens. Recent work to the contrary in the economics of crime has shown that the presence or absence of criminal behavior is to a large degree explainable in terms of the costs of committing the crime. The higher the opportunity cost of a crime, the less likely a person is to commit it. Thus when the probability of being caught and the length of sentence are equal for two people, but one of them (the one with the higher income) has a higher price of time, he will be less likely to commit the crime than the person (the one with the lower income) who has the lower price of time. The point is that the man with the higher wage has more to lose by a stint in jail. Thus his law-abiding behavior and his counterpart's criminal behavior are explainable in terms of universal values and differing constraints. The work of Isaac Ehrlich has been especially important in showing how constraints influence criminal behavior. Specifically, he has shown for a wide range of crimes that the higher the probability of being caught and the longer the typical sentence, the less fequent is the crime.[24]

Recently, this basic theorem of the economics of crime has been applied by Farley Grubb to explain why colonial Maryland had more severe punishment for runaway indentured servants than colonial Virginia.[25] An earlier explanation, exemplified by historian Abbot Smith, held that the difference was due to different values in the two colonies:

> Why, ..., should the laws of Maryland in general be harsher than those of her neighbors...? ...I know of no answer..., except to assume that the planters of

> Maryland were a harsher breed than those of Virginia... .[26]

Grubb's answer is that the harsher punishments in Maryland were due to the lower probability that a Maryland runaway would be caught. Delaware was the destination of runaways from both Maryland and Virginia. Thus Virginia runaways had to traverse both Virginia and Maryland in order to reach haven, whereas Maryland runaways only had to cross Maryland. Given that the probability of capture for Maryland runaways was less, Maryland planters could only achieve a level of deterrence equal to Virginia's by imposing harsher penalties. Thus the different behavior of the Maryland and Virginia planters can be explained in terms of differing constraints, without recourse to differences in values.

**Case 9**

In *The General Theory*, John Maynard Keynes proposed that:

> The fundamental psychological law, upon which we are entitled to depend with great confidence both *a priori* from our knowledge of human nature and from the detailed facts of experience, is that men are disposed, as a rule and on average, to increase their consumption as their income increases, but not by as much as the increase in their income.[27]

Keynes goes on to discuss various reasons which "...will lead, as a rule to a greater proportion of income being saved as real income increases"[28]. On the basis of this law, Keynes proposed that one way of stimulating the economy through increased consumption would be to transfer income from the rich to the poor, since the rich 'hoard' more of their income than the poor. Evidence to support Keynes was available in the form of studies that showed that at any point in time the poor spent a higher percent of their income than the rich did of theirs. But there was also counter evidence. Even though the average income in the country had increased over time, the average percent of income that was saved remained constant. The apparently inconsistent evidence was reconciled by Milton Friedman's permanent income hypothesis.[29] Friedman proposed that the rich and the poor save identical percentages of their respective incomes. The apparent evidence to the contrary was the result of using an inappropriate measure of income. The income people consider when deciding how much to consume is their expected income averaged over their lifetime. In any given year random fluctuations will cause their actual observed income to be either above or below their expected or 'permanent' income. As a result they smooth out consumption by saving more when their observed income is above their permanent income and save less (borrow) when their observed income is below their permanent income. Thus, the fact that proportionally one person saves more than another does not indicate a difference in values, but rather a difference in constraints – the first person is having a better-than-average year, the second a worse-than-average one.

**Case 11**

The advocacy of socialism by some and capitalism by others is often explained in terms of fundamental differences in values. I speculate, to the contrary, that this difference in behavior is explainable in terms of the pursuit of the universal values of social distinction[30] and wealth. Whether a person advocates capitalism or socialism will depend upon what he believes his social distinction and wealth would be under each system. He would, for instance, advocate socialism if he believed that in that system he would have a great deal more wealth even at the price of a little less social distinction. His belief about what his position would be in the two systems depends on his beliefs about how the two systems work (i.e., his knowledge of economics) and his belief about his own effort, endowed abilities and endowed wealth. Thus, given the universal values of social distinction and wealth, the advocacy of different economic systems is explainable in terms of different constraints on effort, endowments and information about economics.

Beyond the eleven cases just discussed, more examples could be adduced in favor of the thesis of universal values. Additional pages might have been devoted to Landsburg's aggregate consumption data,[31] to Posner's explanation of primitive gift giving as a substitute for insurance,[32] and to Haley's finding that the rate of time preference of the poor is equal to that of the rich.[33]

Taken together, such cases provide a formidable array of evidence that differences in behavior can be explained by differences in constraints. Yet no one denies that much remains to be explained. Besides the ongoing rigorous research of Becker, Stigler and their economist colleagues, there are now other sources that provide suggestive but usually unrigorous and untested hypotheses about how differences in constraints resulted in differences in behavior. Among these sources are: (1) the *Annales* school of historical demography in France,[34] (2) William McNeill in *Plagues and Peoples*,[35] and (3) Marin Harris in *Cannibals and Kings*.[36]

The skeptical reader will have noticed the absence so far of a definitive list of those values that are universal and stable. No such list was presented because no such list exists. According to the method of 'De Gustibus', the universal values are not found by armchair theorizing but rather through empirical research. Since much behavior remains unexplained, the opportunities for empirical research are enormous and as a result, no definitive list of values is yet possible. Each value will be added to the list only if it is necessary to explain some difference in behavior in terms of different constraints. Note well that this technique does not reduce the 'De Gustibus' method to vacuous ad hocery. What would be vacuous would be to posit a different set of values in order to explain each difference in behavior. In contrast, in the 'De Gustibus' method, when a value is added to explain one behavior that value must be added to the set of values used to explain all other behaviors as well. If adding the value to explain the other behaviors produces counter-factual implications, then the value cannot be considered universal and cannot be used in the explanation of any behavior. By presenting a difficult but practical method for nonvacuously determining which values are universal 'De Gustibus' provides the long-sought-after means of learning the content of human nature.

But that is a task for the future. What remains to be done here is to recapitulate and conclude.

Ethical theorizing is an activity directed toward ends. The pursuit of any activity is justified only if it is an effective means of achieving its ends. The ends of ethical theorizing are to make the world a better place, to know how to act and to maximize truth. A necessary condition of the effectiveness of ethical theorizing to achieve these ends is that individuals differ from one another in their fundamental values and that they be able to change these values. The truth of the necessary condition is denied by the research program of Stigler and Becker's 'De Gustibus Non Est Disputandum'. A presumption in favor of the 'De Gustibus' claim of universal and stable values is achieved by recounting the many cases in which differences in behavior once thought to be explainable only in terms of differences in values are shown instead to be explainable in terms of differences in constraints. Thus ethical theorizing is an ineffective means to the achievement of its ends and should be abandoned in favor of activities, such as economic research and entrepreneurial innovation, that loosen the constraints on the achievement of our universal values.

## Notes

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[1] Thomas Kuhn, *The Structure of Scientific Revolutions*, 2nd ed. (The University of Chicago Press, Chicago, 1970).

[2] E.g.: Michael A. Slote, 'Morality and Ignorance', *The Journal of Philosophy* 74 (1977), 745–767.

[3] Keep in mind that this is not to deny that people have moral values (what in an earlier time would have been

called moral sympathies or sentiments). It is rather to deny that the fundamental moral values differ between persons and to deny that they can be changed by any one person.

[4] George J. Stigler and Gary S. Becker, 'De Gustibus Non Est Disputandum', *American Economic Review* 67 (1977), 76–90; see also the title essay in Gary S. Becker, *The Economic Approach to Human Behavior* (The University of Chicago Press, Chicago, 1976).

[5] The basic case used here is an expansion of one found in Donald McCloskey, 'The Applied Theory of Price', Unpublished text, University of Chicago, p. 34.

[6] There is an extensive literature on utility measurement and the characteristics of different sorts of utility functions. Cf., e.g., Armen A. Alchian, 'The Meaning of Utility Measurement', in William Breit and Harold M. Hochman (eds.), *Readings in Microeconomics* (Dryden Press, Hinsdale, Ill., 1971), pp. 57–76; and R. Duncan Luce and Howard Raiffa, *Games and Decisions* (John Wiley and Sons, Inc., New York, 1957), pp. 12–38.

[7] Zvi Griliches, 'Hybrid Corn and the Economics of Innovation', *Science* 132 (1960), 275–280.

[8] Thomas Kuhn, *The Structure of Scientific Revolutions.*

[9] Arthur Mansfield Diamond, 'Science as a Rational Enterprise', Ph.D. dissertation (University of Chicago, 1978).

[10] Harold K. Schneider, *Economic Man* (The Free Press, New York, 1974), 143–145; see also: Harold K. Schneider, 'A Model of African Indigenous Economics and Society', *Comparative Studies in Society and History* 7 (Oct. 1964), *passim*; and Harold K. Schneider, *Livestock and Equality in East Africa* (Indiana University Press, Bloomington, Ind., 1979), pp. 105–52. For additional applications of the 'De Gustibus' method to anthropological phenomena, see: Richard A. Posner, 'A Theory of Primitive Society, with Special Reference to Primitive Law', *The Journal of Law and Economics* 23 (1980), 1–53; and Richard A. Posner, 'Anthropology and Economics', *Journal of Political Economy* 88 (1980), 608–616.

[11] Cf. Donald N. McCloskey, 'The Economics of Enclosure: A Market Analysis', and 'The Persistence of English Open Fields', both in E. L. Jones and W. Parker (eds.), *Economic Problems in European Agrarian History* (Princeton University Press, Princeton, 1975); and Donald N. McCloskey, 'English Open Fields as Behavior towards Risk', in Paul Uselding (ed.), *Research in Economic History*, Vol. 1 (J.A.I. Press, Greenwich, Conn., 1976).

[12] For a mention of this suggestion see: George J. Stigler and Gary S. Becker, 'De Gustibus Non Est Disputandum', *American Economic Review* 67 (1977), 76.

[13] Reuven Brenner and Nicholas M. Kiefer, 'The Economics of Diaspora: Discrimination and Occupational Structure', *Economic Development and Cultural Change* (forthcoming, 1981).

[14] Thomas Sowell, *Race and Economics* (David McKay Co., Inc., New York, 1975), pp. 59–156.

[15] Marvin Harris, *Cannibals and Kings* (Random House, New York, 1977), pp. 99–110; and Harris in Marvin Harris and Marshall Sahlins, 'Cannibals and Kings: An Exchange', *The New York Review of Books* (June 28, 1979), 51–52.

[16] Michael Harner, 'The Ecological Basis for Aztec Sacrifice', *American Ethnologist* 4 (1977), 117–135.

[17] Marshall Sahlins, 'Culture as Protein and Profit', *The New York Review of Books* (Nov. 23, 1978), 45–53; and Sahlins in Harris and Sahlins, 'Cannibals and Kings: An Exchange', pp. 52–53.

[18] Bernard R. Ortiz de Montellano, 'Aztec Cannibalism: An Ecological Necessity?', *Science* (May 12, 1978), 611–17.

[19] Marshall Sahlins, *Culture and Practical Reason* (The University of Chicago Press, Chicago, 1976).

[20] The elements of the model that go beyond Harris and Harner are mainly due to informal suggestions from Stony Brook economist Luis Locay.

[21] Bernard R. Ortiz de Montellano, 'Aztec Cannibalism: An Ecological Necessity?', *Science* (May 12, 1978), 612.

[22] The major reference work based on the Human Relations Area Files is George P. Murdock, *The Ethnographic Atlas* (University of Pittsburgh Press, Pittsburgh, 1967).

[23] William H. McNeill, *Plagues and Peoples* (Doubleday, Garden City, N.Y., 1976), pp. 73–74.

[24] Isaac Ehrlich, 'The Deterrent Effect of Criminal Law Enforcement', *The Journal of Legal Studies* 1 (1972), 259–76.

[25] Farley Grubb, 'Differential Punishments of Runaway Indentured Servants in Seventeenth Century Maryland', University of Chicago Economics History Workshop #7980-22, May 2, 1980.

[26] Abbot Emerson Smith, *Colonists in Bondage* (Peter Smith, Gloucester, Mass., 1965), pp. 276–277.

[27] John Maynard Keynes, *The General Theory of Employment, Interest and Money* (Macmillan & Co., Ltd., London, 1954), p. 96.

[28] Keynes, *The General Theory*, p. 97.

[29] Milton Friedman, *A Theory of the Consumption Function* (Princeton University Press, Princeton, 1957).

[30] Stigler and Becker use the value 'social distinction' to explain how the existence of fashions and fads is compatible with universal and stable values. They note that "...distinction is scarce and is to a large extent simply redistributed among persons: an increase in one person's distinction generally requires a reduction in that

of others" (Stigler and Becker, 'De Gustibus', p. 88). Thus while everyone can simultaneously become wealthier, everyone cannot simultaneously become more socially distinguished.

[31] Steven Landsburg, 'Taste Change in the United Kingdom, 1900–1955', *Journal of Political Economy* 89 (forthcoming, February, 1981).

[32] Richard A. Posner, 'A Theory of Primitive Society, with Special Reference to Primitive Law', *The Journal of Law and Economics* 23 (1980), 1–53.

[33] William J. Haley, 'Estimation of the Earnings Profile from Optimal Human Capital Accumulation', *Econometrica* 44 (1976), 1223–1238.

[34] For examples of the work of this school see: Fernand Braudel, *Capitalism and Material Life 1400–1800* (Harper and Row, New York, 1973), first published in France in 1967; and the series of volumes: Robert Forster and Orest Ranum (eds.), *Selections from the Annales Economies Societies Civilizations* (The Johns Hopkins University Press, Baltimore).

[35] McNeill, *Plagues and Peoples.*

[36] Harris, *Cannibals and Kings.*

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