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BIOLOGY IN SOCIOLOGY

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THE acceptance of biology as basic to and an integral part of sociology has a long and distinguished, though somewhat controversial, history. Ever since Comte set the feet of sociology upon the soil of biology, it has been more or less generally assumed, particularly by the so-called "biological school," that there it must walk. As this soil has given signs of being something of a quicksand, protests have arisen.

It is the object of this discussion to reëxamine the rôle of biology in sociology with a view to suggesting what might be a legitimate relationship. References have been selected from a fairly representative cross section of recent and contemporary sociological literature. The approach is made on the premise that sociology should proceed under its own power, ignoring biology as a science, building a set of theories and concepts relative to and explanatory of social phenomena, utilizing freely all facts and observations pertinent to its problems regardless of their original classification as biological, psychological, social or what not. Such a procedure does not deny or minimize the findings of biology; it is simply a rational development from the fact that the two disciplines are concerned with different problems, and that scientific techniques are rather a function of the problems than the subjects being investigated. Even the social psychologist who calls "socio-psychobiology" the "basic science of human behavior,"[1] really develops his treatment of the field theory to involve a system of hypotheses, techniques, and terms which owe little or nothing to biology.

[1] J. F. Brown, "Individual, Group, and Social Field," *American Journal of Sociology*, XLIV, 863 (May, 1939).

There are without question biological factors in social life, some growing out of the facts of physical constitution, some out of the advances of the science of biology itself. But the science of biology is not the science of society and its relation to the latter should be strictly informative for it cannot, in the light of present knowledge, be functional. By functional relationship, I mean one that would make biology an essential element of sociology, its contribution to the understanding of society so great that social analysis could not proceed without it.[2] When a functional relationship is posited, it breaks down in either of two ways. The first lies in the insufficiency of biological man as an explanation of social man,—the inability of biology to furnish any more than the *possibility* of social phenomena. The most extreme cultural determinist would not deny that sex and hunger, for example, are powerful forces in initiating human behavior. But the diversity of behavior possible within the limits of man's biological nature is so great that the physical aspect becomes merely a point of departure for a tremendous complexity of social phenomena.

The second occurs in the transfer of theories and concepts from biology to sociology which is made on the premise of a close relationship between the two. Invariably this involves a distortion and produces a set of ideas which has been rendered ambiguous by mutilation. Biological concepts do not fit social phenomena because they were constructed to apply to organic phenomena. By the time they have been tucked and gusseted to approximate a fit to social phenomena, they have lost their original meaning and serve only to create confusion.

Even if it becomes clear that human behavior is inherent in biological organization, sociology does not become biology. We shall not be able to solve social problems as we solve the riddle of glands in personality, diet in disposition, and germ plasm in intelligence. Sociology will still have the problem of deciding what kinds of personality and how many of each will be needed to make what kind of society. However, it is difficult to imagine that biology will ever be able to predetermine the mature personality. It may find the way to give us the very best raw material, but it still will be raw material and not the finished product. Even the perfect system of biological control depicted in Huxley's *Brave New World* had to be supplemented by the most rigorous social conditioning in order to produce a smoothly functioning society.

In point of fact, biology has already told us a great deal about how our raw material can be improved. It is simply a process of selective breeding for the traits desired. The sociological problem is not the *mechanics* of selective breeding but the tremendous one of whether society can or should be transformed into a human stud farm. This illustrates one aspect of the relationship of biology to sociology. It will readily be seen that its relationship is no closer than that of any science whose discoveries affect the structure and possibilities of society.

The other aspect of the relationship has to do with biology's contribution to an *understanding* of society through increased understanding of man's biological constitution. The magnitude and impor-

[2] Of course biology is not any one thing, but a great many specific things—facts, data, problems, theories, lines of investigation—a general field many times subdivided. In its broadest sense, as a study of all life, it could include sociology as one of its divisions. For the purposes of this paper, I am using it with the more commonly accepted meaning, as applied to the study of the origin, development, properties, and characteristics of living organisms.

tance of this contribution can be evaluated only imperfectly. It depends somewhat upon viewpoint and a great deal upon what sociology is trying to do. If society is regarded as a synthesis or "integration of living protoplasmic systems,"[3] a pattern of interaction between organism and environment, the relationship is, theoretically at any rate, quite close. But in practice, the biologist trains his microscope on protoplasm and tries to fathom the process in terms of its material vehicle. The sociologist, on the other hand, views the intangible products of the integrative process which have been elaborated into the intricacies of social organization and tries to fathom the process in terms of its great variety of manifestations. The knowledge that each is seeking is important, but the findings will not be given in the same language. Attempts to use each other's language have already produced some rather unintelligible results.

As to what sociology is trying to do,—is it to test the fit of our culture to biological man? Is it to envisage a culture that builds upon a firm foundation of biological compatibility? Does our culture put too much strain upon the adaptability of man? If so, can a system be formulated which will ease the strain? Man does and thinks only those things which he can do and think. But he can do and think a great many things. Is he being forced out into the fringes of his variability by the rapidity and magnitude of social change? Are the artificial elements of modern civilization putting such a tax upon his adaptability that he is being drawn away from the sound core of his biological nature into a periphery of distortion which his very amenability to cultural molding serves to mask?

[3] See C. M. Child, *Physiological Foundations of Behavior*, p. 296.

If sociology's prime task is to answer these questions, then it must wait upon biology for a full comprehension of biological man. But the probability is that biological man cannot be dissected away from social man, and that the analysis of society will clarify a great deal about these strains upon variability, regardless of the nature of a hypothetical "biological man."

On the whole, then, it would seem that biology does not contribute a great deal to the understanding of society, as such—that is, society as patterns and processes of behavior, which is the sociologist's society, rather than as a collection of organisms having certain properties and potentialities. I hasten to qualify this statement to the extent of acknowledging the contribution that biology has made to the enlightened approach to the study of society by laying the spectre of supernatural forces in the origin and on-going of man and society, and by dispelling the mists of sacred dogma which have obscured man's vision of himself and his society. Still, this contribution is indirect and, while functionally utilized, does not involve a functional relationship between biology and sociology.

This may seem unnecessarily abstruse, but sociology has injured itself so much by trying to be biological that it is important to draw as clear a line as possible. There is nothing that offends the biologist so much as mangled biology and there is nothing that so jeopardizes sociology as a science. Sociology cannot be a synthesis of the sciences as suggested by Ward and others; it cannot interpret and enlarge upon biology. The latter carries its interpretations to the exact limits allowed by its findings. Any excursions beyond these limits are not science; they are not true biology. The sociologist is at liberty to use the information

which biology can furnish whenever it bears directly upon the specific problem at hand and he should do so, but he must guard himself at every turn against reading into it something that is not there. He may see social implications, but he must avoid sociological interpretations. For some reason, no science except sociology is sensitive about having to say, "I don't know." Perhaps this is because the world is so in need of a sociology that can prescribe a cure for its ills. But as well to call medicine a dolt for not having produced a cure for cancer as to berate sociology for not having found the answers to some of its most pressing problems.

We turn now to an examination of just what sociology has been making of biology and of its relationship to it. Pitirim Sorokin has formulated a statement which represents fairly well the current concensus of sociological opinion as to what constitutes the proper relation.

> In bio-organismic theories we must strongly discriminate between the different classes of statements. The first class is composed of the statements that sociology has to be based on biology; that the principles of biology are to be taken into consideration in an interpretation of social phenomena; that human society is not entirely an artificial creation; and that it represents a kind of living unity different from the mere sum of the isolated individuals. These principles could scarcely be questioned. They are valid. They are shared, moreover, not only by the bio-organismic school, but by a great many other sociological schools.[4]

The first point in this statement, that "sociology has to be based on biology," recalls the Spencer-Ward hierarchy of the sciences which made biology a sort of underpinning for sociology, a necessary foundation. It suggests that there must be biology before there can be sociology. Historically, biology developed before sociology, but it would be difficult to prove that this had to be the case, that sociology could not have developed without a biology to build on. There is reason to suppose that social thought is as old as society. The fact that some of it has become objective in its methods and assumed the name of sociology is merely a sign of the times, the outgrowth of an era which demands the scientific approach in all thinking. We should abandon the notion that since man is a biological organism, sociology must be based on biology. The sciences do not bear the same relationship to each other as the phenomena which they consider. There could be no society without biological organisms, but there could conceivably be a fairly sound sociology without biology. Sociology is dependent upon biology only to the extent to which established biological facts can throw light upon sociological problems, and this extent is quite limited owing to the different nature of their respective problems. Ogburn and Goldenweiser say that biology has benefitted the social sciences "by defining the scope and limits of man's organic traits."[5] To be sure, this definition is not yet complete, but it indicates something of the quality of the dependence of sociology upon biology.

It is interesting to note that Sorokin's discussion of the bio-organismic schools of the first class (that is, those schools which are to be taken seriously) demonstrates quite clearly, though perhaps unintentionally, that sociology is not based on biology. Particularly is this apparent in his treatment of the demo-

[4] Sorokin, *Contemporary Sociological Theories*, p. 207. The second class of statements, which claims that "since biological laws are applicable to human beings," one may "conclude that all human society is an organism," (pp. 207–208), no longer receives credence and will not be considered here.

[5] See *The Social Sciences and Their Interrelations*, p. 7.

graphic school.[6] Similarly, the human ecologists, while appropriating terminology from plant ecology, produce almost nothing in their actual studies which could truly be called biology and so vindicate their claim of viewing society "primarily as a biological rather than a civic or moral order."[7]

The second point, that "the principles of biology are to be taken into consideration in the interpretation of social phenomena," is acceptable provided the word "principles" is taken to mean fundamental truths or doctrines, and provided their application is restricted to the admittedly biological aspects of the phenomena. The interpretation should not be colored by a projection of biological doctrine beyond its legitimate biological bounds. Such a projection is the interpretation of war as a necessary aspect of evolutionary struggle for biological survival. Such also is the thesis that cooperation among animals is a biological law which proves that war is biologically unsound. As suggested earlier, the biologist makes his own applications where his laws are constructed to apply. His offerings are to be regarded as factual information, not hooks upon which the sociologist may hang his theories or ropes upon which he may hang himself.

The third point is that "human society is not entirely an artificial creation." It could be questioned whether human society is in any way an artificial creation. However, in the sense that it is man-made rather than nature-made, it may be said to be artificial. F. H. Hankins says that "all civilization is an artificial construct. The artificial is superior to the natural only so long as it takes full account of natural processes."[8] It is not likely that humanity will tolerate for long a civilization that does not take account of natural processes. That is one way the sociologist has of finding out what are the natural processes. Furthermore, natural processes are not necessarily biological processes. If there are natural laws governing society, the sociologist certainly wants to discover them. But they will be sociological laws, not biological laws, as they will be founded upon the synthesis by which the natural becomes the artificial.

The last point, that society "represents a kind of living unity different from the mere sum of the isolated individuals," contrary to consolidating the relationship between sociology and biology, is the very heart and essence of their independence of each other. The fact that society is not just a collection of organisms is the raison d'être of sociology. The degree to which it is such a collection represents roughly the degree of dependence of sociology upon biology.

Although strict biological determinism is no longer regarded seriously, it has fastened upon sociology an incubus of biological bias which dies hard. Determinisms of all kinds present a great temptation to the academic mind in its effort to resolve order out of chaos, to express complexity simply. This deterministic impulse seeks to lay hold of some essential factor, which, by universal application, will serve to explain everything in terms of itself. The answer to determinism is variability, the capacity of the organism to respond in many ways to varying forces and stimuli. Thus, although there must be many factors that influence human behavior, any one of

[6] Sorokin, *Contemporary Sociological Theories*, Chs., V, VI, VII.

[7] R. E. Park (ed.), *An Outline of the Principles of Sociology*, p. v.

[8] "The Social Sciences and Biology," in Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch. XXXI, p. 412.

them can be made to present a handsome picture of unit causation because of this very variability. But the variability itself turns on the alleged determinant and disqualifies it because it exercises such weak powers of limiting the range of manifestation. For example, if biological necessity is the determinant of human behavior, the diversity of behavior which it permits is so great that it can easily be ignored in the consideration of social phenomena. The things that people learn to want have more social significance than their protoplasmic demands. The proviso should be made here, as mentioned before, that the problem of whether man is being forced too close to the limits of his variability is one which biology may aid sociology in solving, but it in no way substantiates any claims of biological determinism. Ciocco states that "the limits of individual variability in action of direct or indirect social import constitute the material that forms the object of sociological investigations."[9] He is speaking of permissible limits, or limitations imposed by the group, but the statement serves to illustrate the point that sociological investigation is an important means of learning something about all aspects of the limits of variability. The article from which it is quoted, by the way, is a plea for a more biological sociology.

In spite of the passing of biological determinism, there remain vestiges of it in the form of the aforementioned "biological bias" in much of contemporary sociological literature. Many texts contain, as a matter of course, sections on biology which lay more or less stress upon its importance to sociology. These are usually discussions of the theory of evolution and the struggle for survival, heredity, and race. Certain biological drives, listed variously as hunger, sex and fear, or the urge for individual survival and the urge for reproduction, are postulated. Although this material is as a rule fairly accurate in substance, there is a tendency to take liberties with it, particularly in making an application of it to sociology. When no attempt at application is made, its relation to sociology does not appear and it becomes an extraneous element in the text. It would be just as relevant to include a section on economics, in which the laws of supply and demand, the law of diminishing returns, and theories of price fluctuation were set forth. This is never done. Yet economic factors are perhaps of even more importance than biological factors in the consideration of social phenomena. I am not trying to say that the sociologist should ignore biology entirely, but that, instead of inserting chunks of biological theory into the body of the text, he should deal with the biological aspects of his own problems and theories as he comes to them in the course of exposition.

Many phenomena which the sociologist is accustomed to think of as biological are not even facts to the biologist. Birth and death are biological processes, but the birth rate and the death rate and trends of fertility and mortality are social phenomena. Vaccination is a biological process, but the reduced mortality from smallpox is a social phenomenon which has resulted from the utilization of a scientific discovery by society. Most scientific discoveries have their social repercussions and for that reason are of interest to the sociologist. The sex ratio at birth is a biological fact (and one which it is not necessary to consult biology to ascertain), but differential sex mortality is a social phenomenon. Mating is a biological

[9] Antonio Ciocco, "On Human Biology," *The Quarterly Review of Biology*, XIII, 446.

process, but marriage and divorce rates are social phenomena. The word "family" does not even have the same meaning for the biologist and the sociologist. The nature of this diversity of reality in scientific theory is ably expressed by Kurt Lewin in his statement "(a) that a science should be considered a realm of problems rather than a realm of material; (b) that the different realms of problems might necessitate different universes of discourse of constructs and laws. . .; and (c) that any one of them refers more or less to the same universe of material."[10]

To say that biology is not closely connected with sociology is not to say that the science of biology is not of tremendous importance to society. It might be said that anything that affects society affects sociology. This is not true of sociology as scientific technique, but it may be true of sociology as an agency for setting goals and standards. The promulgation of the theory of evolution has had a most profound effect upon society. It is this effect that should hold the attention of the sociologist. Sociology has done itself a great deal of harm by trying to make the theory a part of itself instead of being content with watching it become a part of society.

The word evolution in its widest sense means developmental change or growth.[11] It does not necessarily refer to the theory of biological continuity and differentiation of the species as propounded by Darwin, but it has come to be so closely identified with Darwin's theory that its use in any other sense is biologically colored. Even the phrase "social evolution" carries biological implications. Although there are many points of similarity between biological evolution and social change, it is only the fact of change and something of kind that they have in common. The way of change in biological evolution is concrete and measurable, a group of processes of mating, reproduction, variation, mutation, selection, and death performed by actual organisms. This is not so with social evolution. Social customs and institutions do not mate, produce young, live and die as entities. Of course, this is so obvious as to be almost superfluous. But the mind is too apt to think that because two things are alike in some ways, they must be alike in other ways, even in all ways. It was because of this tendency that Spencer carried his organic analogy too far. Biologically, like produces like in a very specific and definite way. In social evolution, like produces like in a very unspecific and indefinite way. Yet, when we say social evolution, we are prone to think of it as if it were something moving by inevitable stages in some particular direction.[12] Historical incidence is con-

[10] "Field Theory and Experiment in Social Psychology: Concepts and Methods," *The American Journal of Sociology*, XLIV, 872 (May, 1939).

[11] Cf. J. Needham's statement that the application of the term evolution to "any process of change or becoming" is "not defensible," but "should be restricted to cases in which two factors enter, an organism and an environment." *Encyclopaedia of the Social Sciences*, V, 649.

[12] The following are examples of differing conceptions of evolution:

"Evolution is the fulfillment within an environment of an immanent nature of life. When the process is complete we understand most fully the true character of the thing. . .as we survey its different stages we may understand more fully what society means, and if that meaning is better fulfilled through any process of change, we may then speak of the evolution of society." MacIver, *Foundations of the Social Sciences*, pp. 119–20. "Evolution then is but a name for the processes of organic history. It carries no other meaning or implication. It must explain degeneration and regression as well. It does not say that things are getting better or worse." Kelsey, *The Physical Basis of Society*, p. 201.

"In its simplest meaning, evolution signifies an unfolding or development whereby any given phase

fused with evolutionary stages. On the whole it is probably safer for the sociologist to avoid the term entirely. Some noncommittal term like Ogburn's "social change" would be more satisfactory.

In any case, whether sociologists continue to use the term as applied to social development or not, it is with quite different implications from those connected with biological evolution. As Ogburn says, "Cultural evolution is thus not to be accounted for by biological evolution."[13] The biological concept had no scientific status until it was able to explain in concrete detail how the process works. If sociology insists upon using the same concept, it must produce the same kind of specific account of the process. It is not enough to borrow the word from biology, put the handle "social" to it, and let it go at that. The word is anybody's for the using, of course, but no concept in any science has validity until it has been worked out with minute exactness.

The concept of emergent evolution and ideas as to whether human evolution (in the biological sense) is taking an upward or downward course has no standing in the science of biology and, no matter how interesting such speculation may be, cannot be interpreted as showing close connection between biology and sociology.

In applying the concept of evolution to society, the sociologist usually carries over the subsidiary doctrine of the survival of the fittest. The results are biosociological hybrids of doubtful value. Confusion seems to lie in the interpretation of the term "fittest". The sociologist is inclined to worry over the state of society because he fears that under present conditions, it is not the fittest who are surviving, in the sense of reproducing their kind. He forgets that, biologically, those who survive *are* the fittest. He is subconsciously thinking of fitness for some socially desirable function (best rather than fittest), instead of fitness for survival, which is all that the biological theory implies. The best are the fittest only if they replace themselves. It may be that the two can be made to coincide, but this is not a biological problem. Social thinkers were concerned about the low birth rate of the upper classes long before Darwin.[14]

In applying the same theory to social customs and institutions, the sociologist again frequently thinks "best" when he is saying "fittest." For example, he is convinced that certain institutions are the best because they have survived. Having arrived at this conviction, he then begins to fear that these institutions are weakening and that they may not survive much longer. For some obscure reason, the law of the survival of the fittest has ceased to function. Now this alarm of the sociologists may be quite justified from the social viewpoint. Meanwhile, the Darwinian theory has been evoked, then abandoned, and it appears that it might better not have been evoked in the first place. The sociologist needs continually to remind

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of the cosmos is derived from the preceding phases." Hankins, *An Introduction to the Study of Society*, p. 29.

"Hence the study of the course of civilization, or of that of one of its factors, is as much a study in evolution as is the investigation of the phases through which general vertebrate structure, or the horse's hoof proceeds. The mode of evolution is changed; the process goes on." A. G. Keller, *Societal Evolution*, p. 20.

[13] W. F. Ogburn, *Social Change*, p. 141.

[14] F. H. Giddings made a more careful distinction between biological and social fitness when he said that "what society does is to convert a biological survival of the fit for the jungle into a historical survival of the better for human purposes." *Civilization and Society*, p. 403.

It might be questioned whether society actually is doing this.

himself that fitness and survival are not terms that were conceived with social goals in mind.

One of the favorite stamping grounds of the bio-sociologist is the old paddock of heredity and environment. Through long habit, he has come to believe that he must have his daily workout in this arena in order to keep himself in condition for his daily tasks. Now it is probably a good thing for the sociologist to keep up with the progress of knowledge concerning heredity. The alleged decline in the genetic quality of the human race is indeed a serious matter. But suppose that biology should discover how to measure heredity exactly. This knowledge would not greatly alter the problems which sociology is already facing.

If achievement were found actually to correlate closely with innate ability, the differential birth rate would not take on much more gravity as a social problem than it already enjoys. High fertility among the lower socio-economic groups is still a handicap to society, whether the offspring are congenitally inferior or not. Eugenists should be as exercised over defective social inheritance as over defective biological inheritance. It is hard to see why the inability to provide adequate germ plasm for offspring is more serious than the inability to provide adequate environment. Sterilization of biological defectives will not eliminate social defectives unless the latter are also the former. Whether they are or not, it would seem that sterilization of one class is just about as justifiable as sterilization of the other. Probably, sterilization of both is the only way in which sterilization could be made to produce any perceptible difference in a society. After all, biological defect is socially undesirable only when it is also a socio-economic handicap. On the other hand, wholesale sterilization of all individuals below a certain socio-economic standard will not eliminate that element from society unless defective heredity is the sole cause of low status. No one entertains that idea for a moment.

As to the low fertility of the higher socio-economic groups, again the biological factor is only incidental. Here, an increased rate of reproduction would seem socially important, whatever the hereditary implications. The fact that a revised social order might do away with socio-economic differentials would not necessarily turn the problem over to biology, as it is quite likely that fertility differentials would also be done away with. However this may be, as long as the gap between capacity and achievement continues to exist, heritage rather than heredity is the immediate concern of sociology.

The sociologist often designates race as a biological problem, or at least as one of the sociological problems most closely bound up with biology. It cannot be denied that there are many biological aspects to race, but it is not these aspects that are important to sociology. As Howard W. Odum suggests, the sociologist is concerned with race differentials, not race differences.[15] Even the fact of

[15] "For the purpose of setting up an effective technique both of study and of race relations, it is the assumption of this volume that there are no inherent racial differences, but that there is a great and cumulative mass of racial differentials due to explainable causes and often so numerous and powerful as to appear in reality to be fundamental differences. This distinction, therefore, between differences and differentials is of the utmost importance and assumes at once that races instead of being inherently different are group products of differentials due to the cumulative power of the physical and folk-regional environment. . .the attack upon differentials as problems of immediate and practical concern will then transcend opinions as to organic differences which are of less importance to the student of social problems." Howard W. Odum, *American Social Problems*, p. 242.

color, which is unquestionably a biological trait, is actually just an element in race differentials which it is not necessary to turn to biology to ascertain. Sociologically, it does not matter whether color is a biological fact or not; it is something which can be recognized without the mediation of biology, and the social phenomena to which it gives rise have no relation to the science of biology. The fact that, in Germany, the rationalizations which have been built up around the "Nordic Myth" parade under biological colors does not make the phenomenon a biological one. Race attitudes and race prejudice are sociological problems; they are not even facts to the biologist as such.

Even if innate race differences do exist beyond those of physical averages, that is, differences in intellectual capacity, temperament and personality, the discrete catagorization of races will never be possible because of the range of variation within each and because of cross-breeding over many generations.[16] In any case, it is not the true differences, but the assumed, the believed, the acquired differences,—in brief, the differentials—that are sociologically significant.

Suppose that it should be definitely established that the average Negro is inferior to the average white in both physique and intellectual capacity. How would this knowledge affect sociology? If there is one thing the sociologist knows, it is that the mixing of bloods cannot be stopped, though it may be either retarded or accelerated by various factors. He would see in it an aggravation of the race problem, the emergence of further social disorder, another postponement of interracial adjustment; in a word, the impact of a new discovery upon society. Sociology is preoccupied not so much with deciding what *should* be done as with discovering that *can* be done to, with, and for society.

In dealing with biological material, the sociologist occasionally succumbs to the temptation to dramatize it. This occupation may be harmless in itself, but it lays him open to accusations of misinterpretation. H. P. Fairchild, after naming as the basic impulses seeking food and mating, has this to say:

> How amazing, then, that they should be inherently and persistently antagonistic to each other! Is it any wonder that life is arduous and painful when the two fundamental impulses of life are implacably pitted against each other?[17]

The thing that amazes is this very amazement. The dispassionate view resolves the whole thing into simplicity. The individual does not survive without food; the species does not survive without reproduction. As a consequence, individuals and species which exist today do both. It is as automatic as the succession of night and day. There is the fact of death. If there were no death, there could be no organic life. This is explained by the fact that species feed upon each other. Without reproduction, life would by now have consumed itself. Without death, some other means of individual survival would have had to develop for life to persist. To ponder sadly over the "paradox of parenthood," the anthropomorphic attributes of nature, her "continuous orgy of killing,"[18] her "caring not a whit how much suffering or loss she imposes on one generation

[16] E. T. Hiller expresses the sociologically important aspect of race differences as follows: ". . .the fact that one people is lacking in attainments of a given type—for example, the Americans in art and the Anglo-Saxons in music—while excelling in another line, such as government or science, does not so much denote racial inaptitude as the lack of interest culturally or collectively induced." *The Principles of Sociology*, p. 494.

[17] Fairchild, *Foundations of Social Life*, p. 18.

[18] *Ibid.*, p. 18.

provided only that by some means a following generation is assured,"[19] is not only a waste of time, but a serious inaccuracy. Nature does not care about another generation, because nature does not feel. Nature is not cruel; evolution is not ruthless. Both are quite simply that which happens. Why then must the author try to make one feel as if he had eaten his own mother? In a similar vein are statements by Sumner and Keller that "nature's only interest" is "that they (men) shall live and reproduce"[20] and by Hankins that "the first 'aim of nature' is, therefore, to preserve the species" and that "to this end she is more concerned with the welfare of offspring than with that of parents."[21] Perhaps it is necessary for sociology to be an evaluative science, but should it not restrict its evaluations to its own field in terms of social welfare and avoid the useless practice of window-dressing biology?

Theoretical discussions of struggle and cooperation almost invariably come a cropper when they turn to biology for evidence. Both struggle and cooperation exist in many forms among all animals. Many forms of activity are both at once. Therefore, the sociologist has no difficulty in proving anything that he wants to, by reference to man's animal ancestry. Thus, mating is variously cooperation of individuals in the production of offspring which proves that the family is essential to society, and the resolution of the conflict between individual and group survival which proves that society must proceed by struggle. War is now group cooperation, intergroup struggle, a natural device for securing survival of the fittest; now an unnatural denial of the bee's instinct for cooperation. Examples could be multiplied indefinitely. A biology that can prove anything, proves nothing. It is not to be used as an alibi for wishful thinking.

It may be that competitiveness is innate and therefore inevitable, regardless of whether it is necessary to the social order or not. Biological investigation has not established this as true. The fact that competition occurs among all animals does not necessarily mean that it must occur under all circumstances. It is at least conceivable that the necessity for competition among human beings could be removed in time. It is quite possible that athletics, for instance, teach competitiveness rather than merely releasing it in a healthy way. Extreme caution should be employed in making statements about competition as a biological necessity, whether innate or induced.

The postulation of biological drives and urges leads the sociologist to some assumptions that biology does not substantiate. Claims that incest, abortion, prostitution, and state guardianship of children are offenses against nature,[22] that they run counter to certain instincts, cannot be verified by biological investigation. They represent unwarranted projection in its worst form; they are attempts to justify social disapproval of certain practices on biological grounds. Much more authentic "offenses against nature," the repression of physical urges in public places, for example, are socially encouraged, but the sociologist does not become aroused over this sort of restriction of biological function. The soci-

[19] *Ibid.*, pp. 18–19.

[20] *The Science of Society*, p. 3.

[21] *An Introduction to the Study of Society*, p. 260.

[22] See E. A. Ross, *Principles of Sociology*, p. 504. "Instincts make themselves felt in the social reaction to offenses against nature—such as incest, prostitution and abortion." "Proposals for the state guardianship of children have not met with popular favor because they outrage the parental instinct.—p. 646.

ologist is sometimes too ready to translate biological subjunctives into social imperatives when he should confine himself to sociological indicatives.

Another example of projection, in this case by a biologist, is found in C. M. Child's *The Physiological Foundations of Behavior:*[23]

> The course of evolution of physiological integration has been in the main toward democracy with representative government, assisted so to speak by experts, the organs of special sense. Autocracy, on the one hand, and approaches toward communism on the other produce only relatively simple organisms. Whether these facts have any significance for the future of human society must remain a matter of opinion, but it seems at least to be true that the integration of human society is progressing psychologically, in later times, to some extent intelligently and self-consciously toward what may be called a democracy of ideas with representative government.

It is possible to use one's imagination in a contrary direction and arrive at the opposite conclusion. Surely the human body has many attributes in common with the totalitarian state!

Whatever sociology as a definitive science is or may come to be, it is not functionally dependent upon biology. The latter is a source of information concerning the biological properties of the human organism. The extent to which biological organization limits and shapes human behavior, and in consequence the social order, would seem to be rather a biological problem than a sociological one, since the sociologist is not equipped to evaluate critically contributions within the field of biology and since the problems of sociology demand a different approach and method. Even though social phenomena may be reduced to biological potentiality, they probably cannot be reduced to biological necessity. There are problems which have both biological and sociological aspects, but whereas the two sciences may meet in their solutions, they will arrive at them, in the main, from different directions. The progress of any science is chiefly dependent upon the specificity of its problems and the detail of its research. If there is an effective biological approach to the study of society, it will have to be made by the biologist, and he will be no more justified than is the sociologist in projecting his conclusions outside the bounds dictated by his findings. Beyond this, biology is a social phenomenon to sociology.

[23] Pp. 297–298.