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Darwin and the descent of "man"

A MAJOR gap exists in most reconstructions of the social life of our pongid and early hominid ancestors. Females and young are omitted. Or a more subtle fallacy is incorporated: Traditional Western beliefs are read back into the past. Like Social Darwinism in the late nineteenth and early twentieth centuries, naive imagery springing from unexamined evolutionary assumptions about early social behavior can, even today, act as an origin myth.

Evolution as an origin myth

MORE than a century ago Darwin intimated human origins were with simpler and "lower" forms. Darwin suggested a mechanism—natural selection—to explain evolutionary change. This concept was developed and elaborated in *The Origin of Species by Means of Natural Selection* (1859); many species of plants and animals—living as well as fossil—were used to illustrate how this mechanism operated. Although Darwin's only comment on the human species was in his closing chapter where he stated, "Much light shall be thrown on the origin of man and his history," the implication was understood (Darwin, 1859, as reprinted 1936:373). In *The Descent of Man and Selection in Relation to Sex* (1871), published 12 years later, Darwin not only made explicit that humans descended from animals but also pointed out that, in addition to natural selection, sexual selection was an important aspect of the evolutionary process.

Since the publication of *The Origin of Species* (1859) and *The Descent of Man* (1871), the idea of human evolution has consistently generated interest, excitement, and controversy. The topic carries an aura that goes far beyond simple scientific curiosity. The subject fascinates people, yet often elicits strong negative response: Recall the furor surrounding Darwin's work. The quick reception by many contrasts vividly with the extremely long time it has taken for Darwin's ideas to be generally accepted by others. Even today, despite a well-established and rapidly increasing

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hominid fossil record, there are religious sects for which the concept of biological evolution is still anathema.

The extraordinary interest in Darwin's theories of biological evolution through natural and sexual selection of continuous intraspecies variability cannot be understood as merely deriving from the ingenuity of his argument from phylogeny at a time when an early human fossil record scarcely existed. True, his theory was so persuasive and well argued that it provided an effective paradigm for the interpretation of subsequent hominid fossil finds. Its intellectual acuity hardly explains the popular response, however. The theory was readily, rapidly, and widely embraced but also encountered strong and persisting resistance. Darwinian evolutionary theory has had social implications from the very beginning.

The social and intellectual context of the times provides an understanding of the enthusiastic acceptance of evolutionary theory, whereas religious beliefs in special creation buttressed its rejection in other camps. Evolutionary approaches to a variety of phenomena were part of the mid-nineteenth century intellectual climate (Bock, 1955). Almost simultaneously with Darwin, Wallace presented essentially the same thesis regarding biological evolution (Wallace, 1855, 1858). Ideas of economic, political, and cultural "progress" and "development" (often joined with biological racism), in which the white men of western Europe imagined themselves at the apex of "progressive social evolution," arose after the West's "discovery" of the rest of the world and were still current in Darwin's era (Bock, 1955; Stocking, 1968); and Spencer, in three of his early writings (1852a, 1857), had already incorporated an idea of biological evolution (albeit by Lamarckian processes) along with the idea of social and cultural evolution into a grand schema that offered a direct alternative to the prevailing but already faltering religious view. Among those who accepted Darwin's ideas were, therefore, many who, like Spencer, saw biological evolution as but part of a perspective that was largely social and political.

The opposition was largely grounded in adherence to religious beliefs on human origins. Darwin's theorizing had led him not only to trespass but to stake out claim on sacred ground. His theory offered an explanation of human origins. In so doing, Darwin's theory came into direct competition with his culture's religious origin myth. And eventually the theory of evolution was to contribute to the creation of contemporary myths that, surprising as it might seem, bear certain similarities to the religious origin story that preceded it.

Just as Eve was formed from Adam's rib, once "scientific" speculation began on human origins, the Western preoccupation with "man" – rather

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than with humans of both sexes—became evident. The English language, in which *man* can refer to humans in general as well as be used in its more restricted sense to refer to the male gender per se, reflects and reinforces the Western cultural tendency to focus on males. There has, in fact, been very little direct exploration or reconstruction of women's activities during the course of human evolution. Although this is understandable in view of the cultural background of many Western scholars, it is poor science. There is a great deal of data that cannot be adequately analyzed if scientists fail to examine the activities of one half of the human species (see Figure 1:1).

Reconstruction of early human social activities—with the identification of "man" or "man the hunter" as the prime actor—can, like the primacy of Adam, serve to mythically legitimize traditional Western cultural patterns of sexual stratification. Similarly, what was once called the problem of the origin of evil in theology has come to be accounted for through evolutionary reconstruction (Montagu, 1976). Attempts have been made to comprehend the reasons for Western sexual inequality, social hierarchies, competition, conflict, and even warfare between industrial nation-states by reference to the supposed qualities of our animal ancestors (Lorenz, 1966; Morris, 1967; Tiger, 1969; Tiger and Fox, 1971).

That scientific theories on human evolution (and particularly their popularized rephrasings) should, in this instance, come to fulfill some of the same functions as the religious origin myths they have largely replaced is not really surprising. Every human society endeavors to understand its own existence and way of life. Origin myths are an integral part of most such attempts. They relate to a people's understanding of the meaning of their lives and provide guidelines for social behavior. With the partial demise of earlier origin myths, Western peoples formed a new evolutionary myth that could both satisfy their curiosity as to human origins and provide an image of how humans "should" behave—or, more accurately for the new myths, how they "inevitably" do behave.

Darwin perhaps sensed that he was proposing a theory that would ultimately revolutionize humanity's image of itself. If so, one can better understand the attention he gives to the question of the development of the "moral faculties" during "primeval times" in *The Descent of Man* (1871). As with the physical aspects of evolution, so with the social aspects: Darwin was particularly interested in origins. Although he saw some forms of interpersonal behavior as more adaptive than others, his framework for the understanding of ethics was developmental and probabilistic rather than prescriptive. Nonetheless, like Western explorers and colonists before him and especially like the philosopher Herbert Spencer (1864), Darwin sug-

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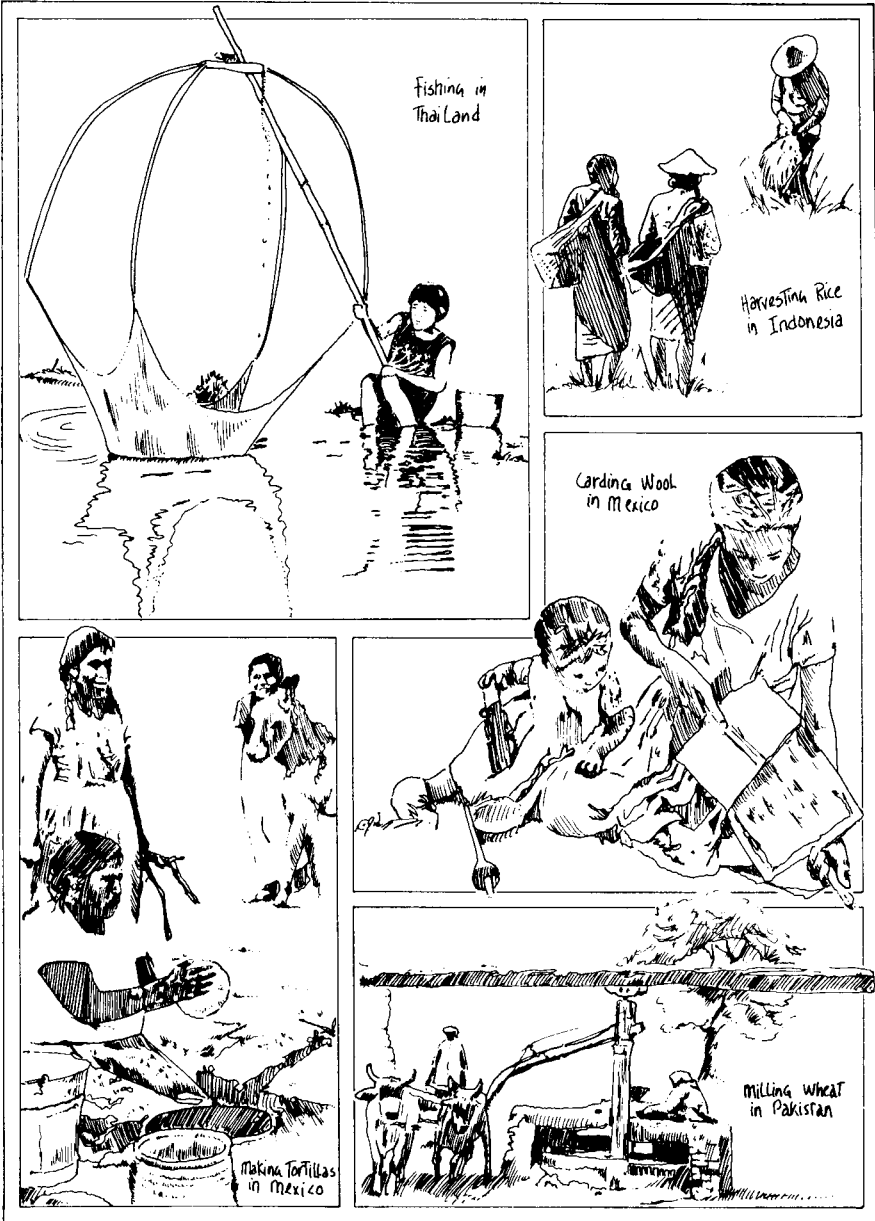


FIGURE 1:1. Cross-cultural views of women. There is a great deal of data that cannot be adequately analyzed if scientists fail to examine the economic and other activities of one half of the human species.

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gested that in the course of time some societies came to have an advantage over others, only to be superseded later by other, even more "successful" and more "moral" societies (1871). This mild Darwinian speculation was to be a precursor of Social Darwinism—a set of beliefs that in actuality owed at least as much to Spencer as to Darwin. Social Darwinism, the new Western "origin myth," in turn, made it possible for the peoples of the expanding West to consider themselves the chosen people of social evolution.

Despite vast changes in biological evolutionary thought since Darwin, he still stands as a giant figure in intellectual history. His monumental work on speciation was exemplary in terms of scientific investigation, and his proposal of change through natural and sexual selection formed the basis for the new paradigm within which the biological sciences have operated for the past century. But, in Darwin's day, at least equally important was the immense influence of social evolutionary theory on Western folk beliefs. In hindsight, we now realize that Social Darwinism has no connection with the process of biological evolution. This insight is largely the product of several generations of research in genetics and anthropology. Biological racism and ethnocentrism are no longer scientifically respectable.

Darwin was, of course, to some extent a product of his culture and his time. It is not difficult to find racist or sexist assumptions in his writings or to see a reflection of the competitive Victorian social milieu in his concept of natural selection (Sahlins, 1977). Ironically it was this cultural baggage, which he carried with him (but did not focus on) in his biological work, that proved to be so attractive to Western society. Biological Darwinism was interpreted, extended, and its thrust changed subtly but surely in ways that made Darwin's ideas particularly attractive to the rising bourgeoisie and compatible with the ideas of competition, free enterprise and capitalism at home, and with colonialism abroad (Hofstadter, 1959).

With Herbert Spencer's equation of "Progress" and "Evolution" (1857), E. B. Tylor's (1871) and Lewis Henry Morgan's (1877) ranking of the societies of the world into an ascending series from "savagery" through "barbarism" to "civilization," and the then current anthropological assumptions of a sort of hierarchy of human races (Stocking, 1968), the major elements of a new origin myth were complete. Social Darwinism extended Huxley's portrayal of warfare in nature (Huxley, 1888) to warfare in the marketplace; this gave the burgeoning industrial world of the time a "scientific" sanction for free, unregulated, and often quite ruthless competition. This was the era of industrialization in the West and of colonial exploitation in the rest of the world.

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“The survival of the fittest” was coined by Spencer (1866), subsequently picked up by Darwin in later editions of *The Origin of Species* (1869), and also used by Huxley (1894). The phrase caught the popular imagination of the time and even today still evokes a powerful response. Darwin (1869) adopted it as a metaphor for natural selection. For him it referred to the individual organism’s life-maintaining activities – among which were cooperation and interdependence – and to its success in bearing, nurturing, and leaving healthy progeny. Huxley (1894), however, echoed his times when he presented as synonyms “the survival of the fittest,” “the struggle for existence,” and “the competition of each with all.” For the Social Darwinists and their audience, the term came to encapsulate a new ideology:

“The survival of the fittest” was for the industrial barons at once the inspiration and the justification of their policies and their actions: on the one hand, explosive growth in the industrialization of society, which was naturally seen by the beneficiaries as “progress”; on the other hand, social approval of the personal qualities that made this possible – personal ambition, greed, self-aggrandizement, competitiveness, exploitation of others and indifference to their plights. [Montagu, 1976:46]

In the popular mind of the day, Darwinism per se (i.e., the theory of biological evolution through natural and sexual selection) joined with Social Darwinism: A new origin myth, along with a set of guidelines for human behavior, had arisen.

This new origin myth – the sociocultural as well as the biological “survival of the fittest” – integrated two potentially discordant features: (1) It was universalistic in the sense that all contemporary peoples came to be seen as members of one species, *Homo sapiens sapiens*, and (2) it simultaneously provided a justification for Western imperialism, for colonial and neocolonial expansion, and for exploitation of both material and human “resources.” Biological universalism combined with the legitimization of increasing social differentiation along class, ethnic, and national lines was characteristic of a historical period that saw intensified economic and political interdependency of the peoples of the world on increasingly unequal terms. As Western societies became more technologically sophisticated, capitalistic, urban, class structured, ethnically diverse, and secular, the theory of human evolution combined with Social Darwinism came to be a peculiarly apt origin myth. Its rapid and wide acceptance in the West, like the initial (and in some camps persisting) opposition, must be understood in the context of broad cultural and social trends.

Today, Social Darwinism is largely a doctrine of the past. Indeed, many scholars would look back upon its florescence as an unscientific aberration

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(Alland, 1974; Freeman, 1974; Gould, 1974). Yet the fact that a doctrine so deeply related to Western history and society could be at least partly inspired by and, as it were, adhere to the scientific theory of biological evolution should prove instructive with regard to the potential for building ideology at the expense of science when scholars deal with matters so culturally loaded as human origins.

Scientists, no less than others, are cultural beings. Many "evolutionary" reconstructions dealing with early human social interaction have, therefore, come out of Western values and Western perspectives about human nature and not only reflect but reinforce common social patterns. Reconstructions of past social behavior—in the absence of both substantial evidence and a culturally relativistic perspective—tend to simulate a modified and simplified version of the culture and society of the reconstructor.

Reopening the question: "human nature" from an evolutionary perspective

The influence of the sexual attitudes of the Victorian era is evident in a curious reversal in one part of Darwin's argument. When describing the process of sexual selection (1871) among all animals save the human species, he not only discusses competition among males for females but also stresses the importance of female choice. The secondary sexual characteristics of the males, such as bright coloration, fine plumage, special vocal qualities, and so forth, are seen as being important to the extent that they are attractive to the females: "The females are most excited by, or prefer pairing with, the most ornamented males, or those which are the best songsters, or play the best antics . . . Thus the more vigorous females, which are the first to breed, will have the choice of many males" (1871, as reprinted 1936:573). However, when Darwin approaches the discussion of sexual selection among humans, male choice is now assumed, and it is female beauty that is seen as attracting the male. In accounting for this apparent shift, he writes: "Man is more powerful in body and mind than woman, and in the savage state he keeps her in a far more abject state of bondage than does the male of any other animal; therefore, it is not surprising that he should have gained the power of selection" (1871, as reprinted 1936:901).

In a centennial volume edited by Campbell (1972a) commemorating Darwin's *The Descent of Man and Selection in Relation to Sex* (1871), the framework Darwin set forth is still utilized and his approach to female choice is very much in evidence (Zihlman, 1974). The articles in the Campbell volume range in their interpretations from those by Trivers and

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FIGURE 1:2. Victorian women: no female choice?

Selander, which discuss the role of female choice, to those of Fox and Crook, which neglect it. Birds and insects are the primary subject matter of Trivers's and Selander's articles; Crook and Fox deal with primates and humans—as if the closer the human condition is approached, the less female choice is confronted and dealt with directly. Fox combines his views with those of Levi-Strauss (1949) on the “exchange of women” in marital “alliance systems” and does not consider active female roles in society during evolution. His approach is similar to that part of Darwin's argument that stressed female beauty so that she would be selected by males. When the attributes of females are seen in this light, as existing for

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male choice, it also appears “logical” to view females as passive and, by extension, to assume women had an insignificant part in the formation and development of human society during our several-million-year evolutionary history.

The assumption of an uninitiating role for females was intimated by Darwin who was doubtless influenced by the social milieu of Victorian England where women were treated and characterized as passive. Even today this view permeates much of what has been written concerning early human social behavior. This illustrates how ideas that were formulated in a particular cultural period can persist even though the context has changed. Ideas do eventually catch up with social reality, and it is now time for us to begin to explore the role of women, along with the role of men, in evolution.

Human evolution includes men, women, and children

All aspects of evolution have their fascination, but it is our social life that marks us off as human. We have enormous potential for learning any one of myriad specific cultural patterns for social interaction and ecological adaptation. As a species our communities are incredibly variable—ranging from tiny gathering–hunting camps to massive industrialized nation–states. Humans rely on learning, on culture, to know how to perform even the very basics of survival—how to give birth, feed the young, obtain food, attract a sexual partner. Learned patterns and skills guide the construction of shelters and of social meeting places for conversation, trade, ritual, or politics (see Figure 1:3). Culture informs the arrangement of physical structures and social roles into the differing configurations appropriate to a tiny hamlet of shifting cultivators, a substantial village of wet rice farmers, a provincial town that is a seat of trade and local government, or a large urban industrial center. In some societies women have more than one husband simultaneously; in others men have more than one wife. In our society’s past, permanent monogamy (“till death do us part”) was customary; today, serial monogamy has become quite common. The essential question in human evolution is: How did this enormous plasticity develop? How did the great capacity for human learning and communication come to be?

Social action is not preserved in the fossil record: Language, mother love, environmental lore, kinship systems, faith, and children’s games do not fossilize. In trying to understand the social life of early hominids—those “pre-people” so long ago and far away—there is a tendency to see them as modified, simplified, or idealized versions of ourselves. Sadly, what this has meant in practice, until very recently indeed, has been an almost

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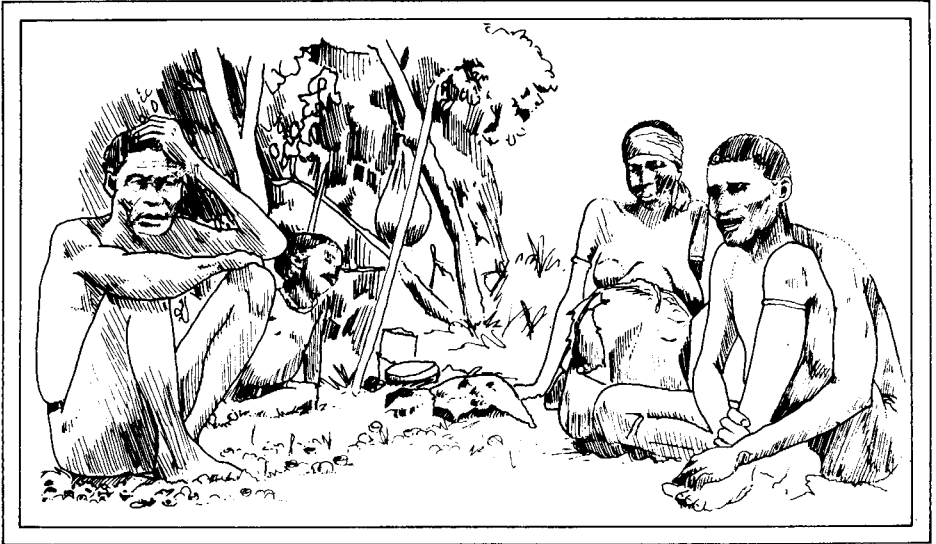


FIGURE 1:3. A !Kung San woman, 8 months pregnant, of the Dobe area, southern Africa, with her husband, her small daughter, and a visiting uncle (*on left*).

exclusive emphasis on adult male behavior. This book develops a model of early human social life that takes into account both sexes and the young as well as adults.

The present social and scientific context is one that permits, even encourages, asking new questions. From a theoretical standpoint this proves to be enormously exciting: By asking these new questions—questions about the specific roles of each sex and how they interacted during the course of human evolution—data that once seemed anomalous can now be fitted into the evolutionary picture. Further, by examining the activities of both sexes it becomes possible to construct a sequential model of human evolution—in other words, to hypothesize how behavior changed through time. When both sexes are included, the lifeways of the transitional population that was diverging from ape ancestors and of the early hominids can be reconstructed in a manner consistent with the fossil and archeological evidence. It is, in short, now feasible to reassess the process of human evolution in a more considered manner.

What this book is all about

The necessity, excitement, and utility of model building are presented in Chapter 2.

Chapter 3 reviews molecular and fossil evidence to establish a phylog-