

Review

Elena Madison

Frans de Waal, *Good Natured: The Origins of Right and Wrong in Humans and Other Animals*. Cambridge and London: Harvard University Press, 1996.



What People Have to Learn from Apes and Monkeys

Introduction

Marilyn is trying to eat in peace, but Georgia's pestering simply won't let her. So Marilyn goes to look outside and starts raising a ruckus, whereupon Georgia, along with the rest, goes to see what the fuss is all about. While their attention is diverted, Marilyn returns to her eating--finally left in peace.

Interesting? Perhaps not very. After all, people use diversionary tactics all the time to get their way, knowing how others will react. But Marilyn and Georgia aren't people. They're chimpanzees. Whoa, deliberate deception by chimps! A little more interesting? Maybe, but so what?

For one thing, there seems to be more in common between the behaviors and mental abilities of humans and apes than previously thought. Is there anything useful to be learned from this, and from the further study of likenesses and differences between the behaviors of apes and humans? Let's see.

Frans de Waal, the author of a book called *Good Natured: The Origins of Right and Wrong in Humans and Other Animals*,¹ is a primatologist. He makes a living studying the habits, activities, and social organizations of non-human primates, i.e., apes and monkeys. His work helps us to better understand both the likenesses and differences among the behaviors of humans, on the one hand, and chimpanzees, gorillas, bonobos, and various kinds of macaques (a type of monkey), on the other. By examining the likenesses and differences we can shed light on the interplay of biology and culture--in particular, how each contributes to human behavior, as well as how each is changed by human activity.

Culture and its evolution are social aspects of human behavior that are invented by humans, or other animals, and are passed down from generation to generation, as children learn from adults. Biology refers, in part, to genetically enabled features of human nervous systems and other anatomy and physiology, present at birth and changing throughout the life of the individual, often as a result of what the individual does. Biology is only partly the product, directly or indirectly, of natural selection over hundreds of generations. I say "partly" because what we do also contributes to our biological make-up. For example, our health and body habitus are heavily affected by what we eat, how we exercise, and our avoidance or contact with toxic substances and conditions, though under certain social conditions these may not be a matter of choice for millions of people.

There are entire schools of (pseudo)scientists who maintain that most, if not all, of our complex behaviors are biologically, by which they mean genetically, determined. The main reason it is important for us to know if *any* of our complex behaviors are biologically *determined* is that this knowledge can help us to know which, if any, features of present day capitalist society we have to accept and learn to live with.

The good news for the working class is that so far there is overwhelming evidence from anthropology (the scientific study of cultures throughout history and around the world) that virtually all, if not absolutely all, complex behaviors are learned and cultural in origin, even if enabled by biology. It follows that there are no complex behaviors that we cannot change in general by changing our social circumstances. Granted all humans, and indeed all animals, eat, for example, because our biological make-up demands it for survival, but the styles of eating and what we eat is as varied around the world as are styles of dress, housing, and entertainment.

It stands to reason then that those with the largest stake in maintaining capitalism, namely the owners of capital--the class that presently rules, around the world--have no desire that the working class and its allies learn what can be changed, let alone how to change it. The ruling class would prefer--no, their continued rule absolutely requires--that we believe that nothing fundamental in capitalist society is changeable. They need us to

believe that ownership of all productive wealth will always be in the hands of a few and that the vast majority are sentenced for life to be slaves (wage slaves or otherwise) to the interests of capital--all because of some mythical unchangeable "human nature."

Creating and maintaining widespread belief in a demonstrable falsehood is a not insignificant task. For help in this effort the ruling class funds and handsomely rewards scores of scientists. These scientists are paid to try to convince us that complex behaviors--like alcohol and drug addiction, unemployment, aggression, rape, shyness, etc.--are all genetic in origin. That they are hardwired into the nervous systems of human beings, rather than programmed by each person's activities and experiences after birth--to use an oft-employed computer analogy.

Relationships versus individual traits

One of de Waal's principal starting points, and one of his major strengths, is to show that many complex behaviors are not traits of *individuals* at all but rather aspects of *interrelationships* among different members of the same species, and sometimes of different species. He denounces the school of sociobiology² for claiming, for example, that humans are aggressive because insects (and presumably all other creatures between, on the evolutionary scale) also fight, which supposedly leads to the conclusion that aggression is hardwired into our genes or DNA.

Clearly, any behavior, such as aggression, that is a relationship between two or more individuals, rather than being a trait of any one individual, cannot be *determined* by the biological make-up of an individual. It is a feature that emerges only on the social level and is not reducible to a property of an individual--although the underlying *capability* for aggression, under certain social circumstances, may be.

Furthermore he shows that acts of *reconciliation* between two primates, following an act of *aggression*, are every bit as much a part of the relationship between the two as the aggression itself. He points out that the sociobiologists, and many others writing on the subject, are one-sided in their neglect of reconciliation. If aggression, he argues, is a part of "human nature" or "primate nature," then so is reconciliation--at least for those primates, like chimps, who engage in this patching up of inter-individual relationships.

But if a feature and its opposite are both aspects of human or primate "nature," then neither is determined by it--except in the trivial sense that we and the apes and monkeys are biologically capable of either feature. However, the advocates of "human nature" as explanation for a behavior generally mean to convey that we are trapped or limited by that nature and are incapable of escaping it. They wouldn't waste their breath or ink pointing out that it is "human nature" to feel hungry and to feel full, though both are true. Entrapment is also the colloquial sense in which all of us have been taught to use the phrase every day, as in "It's human nature to want to get ahead at someone else's expense."

De Waal theorizes that the basic prerequisites for reconciliation are the *abilities* 1) to *recognize* other individuals of their species, 2) to *remember* aspects of the relationship with that individual over time, and 3) to *value* the relationship as something worth preserving.

The basis for one individual to value the relationship with another seems to be related either to kinship (i.e., a parent, child, sibling, cousin, etc.), to growing up together, or to past alliances against some other individual(s) outside the pair, whether from the same species or from some predator species, or perhaps to some other experiences shared by the pair.

De Waal also describes the way an alpha male chimp (leader of the group) often intervenes to stop a fight between two other chimps. This is done apparently in order to restore social peace, which is to the benefit of both the combatants and the leader, as well as of the whole group. Social rewards can play an important role in encouraging behavior, just as individual rewards can play a role.

Not all primates are found to engage in reconciliation. For example, rhesus monkeys do not, though some other species of macaques, such as stump-tails, do. Such behavioral features that are apparently universal throughout the species are often, on that basis, assumed, particularly by sociobiologists, to represent biologically determined behaviors.

However, de Waal describes a key experiment in which a group of rhesus monkeys were kept together with a group of stump-tails for 5 months. At first they tended to segregate themselves most of the day and night, but this gradually disappeared over the 5 months. Even more importantly, while at first the rhesus would attack the stump-tails, the latter would refuse to react. Over time the rhesus also learned to remain peaceful. Moreover, this was not just a temporary or situational development. Even after the rhesus and stump-tails were separated once again, this group of rhesus retained their newly learned behavior.

The clear implication is that the original aggressiveness of the rhesus was not biologically determined, regardless of how universal it may have been among them. It is stably changeable, in this case by cultural exchange.

A second demonstration of the cultural origins of complex behaviors that sociobiologists attribute to biological make-up, in particular genetic, is the fact that, even among primate species, different separated groups exhibit different behaviors. For example, one group of chimps uses stones to break open nuts while another group of chimps lacks this technology, despite their having the same genetic make-up, and different groups of bonobos use different signals to communicate. If complex behaviors of even apes and monkeys are not determined by their biology/genes, how much more true is this of humans, whose cultures are infinitely more varied.

Likenesses and differences between humans and other primates

Another of de Waal's principle starting points is that, in order to understand the basis of human behavior, one has to examine both the likenesses and differences between humans and other primates. That is, it is necessary to understand both continuity and discontinuity between closely related species.

At the same time he is far more cautious than many other scientists about attributing motives to primates based on observations of their behavior alone. He proposes certain kinds of experiments to tease out what motives may be behind their actions, and usually doesn't leap to conclusions--a strength not shared by sociobiologists. This doesn't mean he never attributes motivation, but he usually demands relatively strong evidence for it.

For example, he describes an observation of behavior by ring-tailed lemurs (half-monkeys or prosimians, somewhat more removed evolutionarily from humans than chimps are): a mother lemur violently shakes her infant off her back, letting it fall to the ground, following which the infant's grandmother attacks the mother, though grandmother lemurs almost never interfere in mother-child relationships. In this situation he finds it hard to avoid the conclusion that the grandmother is deliberately acting on behalf of the infant's well-being and punishing her daughter for failing to care for the grandchild.

A second example is the scene described at the beginning of this review, in which one chimp engages in deliberate deception of the other chimps by looking out toward the woods and making agitated noises, apparently in order to divert their attention toward the woods and away from some food, for the apparent intentional purpose of gaining access to the food without interference.

The important features of this scene are the apparent motive, benefit, and lack of trial-and-error learning. In other words, it is hard to avoid the conclusion that the deceiver is capable of predicting what the other chimps will do and the benefit that she will derive from that behavior.

One discontinuity between humans and other primates is the use of language. But there is also more continuity here than has been previously supposed, in that there are gorillas who have been taught to use sign language and to draw and paint, and who can in these ways express emotions and other needs. The human use of spoken and written language allows much greater elaboration of ideas than apes are capable of, but apes are nevertheless capable of far more human-like behavior and communication than had been previously known.

Genes confer *capabilities for*, but do not *determine*, complex behaviors

It would seem that the best way to think of the relationship between genetics and complex behaviors is that biological evolution develops genes that code for certain anatomical features that are capable of certain functions and, in turn, confer *capabilities*

for a particular complex behavior. But these genes do not necessarily *determine* that these behaviors *must* take place. The job of determining these behaviors is left to the *individual* and collective actions of the members of the species, resulting in cultural developments that are taught by, and learned from, the various generations. An individual's complex behaviors are based on her or his cultural existence, i.e., daily activities and relationships with others in the society. And in a class-divided society like capitalism, members of the different classes experience different social relationships and different daily activities.

What does it mean for humans to be genetically capable of certain behaviors but not destined to engage in them? In particular, it means that there may be a virtually unlimited number of conceivable behaviors of which humans are capable, but in which none may engage. And of course, there are many behaviors that only some humans, even within the same social class, engage in and others do not, such as hunting, novel-writing, and murder. Indeed these far outnumber the behaviors in which virtually all humans engage, such as speech, but even speech is not genetically determined by our DNA. It is only enabled.

In fact, it isn't even the case that the parts of the brain used in comprehending and producing speech are usable for only these purposes. Deaf people who understand sign language and can reproduce it are found to use those same parts of the brain that hearing people use for comprehension and production of speech. It seems then that not only is speech not hardwired into our brains, but when speech is prohibited by the absence of hearing, those parts of the brain are adaptable to corresponding language activity. Similarly the part of the brain used by seeing people for sight is adapted in blind people for reading Braille. Far from being hardwired, the brain is extremely plastic with respect to these complex behaviors.[3](#), [4](#)

When scientists and others claim that behaviors like rape[5](#) or imperialist war are simply human nature being acted out, the fact that not all humans engage in such activity renders the claim nonsense. It's impressive how the continual repetition of palpable nonsense can create widespread illusions.

Perhaps one useful way to envision the relationship between biology and culture is that there is a hierarchy of scales of being, at least among animal life, from electrons/protons to atoms to simple molecules to complex biological molecules to organelles (cell components) to cells to organs to organisms (humans and other animals) to societies or cultures.

The failure to appreciate the relatively independent existence of cultures, based on the interrelationships of members of a species and between different species, is characteristic of much of the one-sided and reactionary science of biology today.[6](#) It permeates the thinking of, among others, scientists who design experiments with the goal, for example, of showing that there are biologically based behavioral differences between different socially defined ethnic groups--such as black and white--particularly with regard to aggression.[7](#)

Altruism is real and differs from selfishness

One argument that de Waal makes against sociobiologists, among others, concerns the nature of altruism (acts of selflessness). There are many who say that all apparently altruistic acts are nothing more than a particular way of serving one's own self-interest. In other words, they say that the reason anyone ever does a favor for someone else is only in order to get something immediate in return. De Waal points out that this reductionist argument (one that reduces the complex to the simple while omitting important aspects) overlooks a very real difference between an act that is done for the immediate return of a favor and one that is much more separated in time from any possible repayment. Furthermore there may be no expectation of repayment at all, and any future benefit may come from persons other than the one for whom the favor was done in the first place.

For example, when a starving person looks at someone eating, the eater can either ignore the starving person and keep all the food for her/himself or can share the food and enjoy the good feeling that comes from helping a fellow being. Those who would overlook the difference between these two alternatives in favor of the likeness (both are rewarding to the eater) are being unscientific, according to de Waal. The difference in effects on the receiver of the food is certainly significant, not to mention the difference in effects on the giver.

Though de Waal doesn't say so, the basis for serving one's own interests among the capitalists is like the former (keeping the food), while the basis for serving one's own interests under communism has been, and will some day again be, like the latter (sharing the food).

Anticommunism

Which brings us to a major weakness in de Waal's outlook, namely that he is anticommunist, fails to appeal explicitly to dialectical materialist thinking, and completely ignores Marx's and Engels' contributions to the understanding of human capabilities, though he refers repeatedly to Adam Smith's outmoded and no-longer-supportable writings. Whether he does this deliberately to try to avoid criticism of his ideas, or is himself won to an anticommunist outlook, is irrelevant. The result is the same, and it prevents his drawing more profound conclusions about the future of humanity.

For example, while much of de Waal's outlook can lead to a better understanding of the ways in which humans can bring about the liberation of the world's working class with a communist egalitarian organization of society, his anticommunism prevents him from exploring this himself. At one point, instead of using Nazi West Germany, he uses socialist East Germany as an illustration of misplaced loyalties, in which people supposedly informed on parents and spouses. Moreover de Waal is not ignorant of the devastation done by the Nazis, as he comes from the Netherlands, where the Nazi occupation wreaked havoc on the population before and during World War II.

And further, when he builds a hierarchy of organizations to which one owes loyalty, he lists self, family, community, nation, all of humanity, and all life forms, but he completely omits class--in particular, the working class--which cuts across nation and all of humanity.

The adaptationist error

A second major error de Waal makes is what has been called the adaptationist error by, among others, geneticist Richard Lewontin and paleontologist Stephen Jay Gould. Lewontin and Gould published a seminal paper in 1979 called "The spandrels of San Marco and the Panglossian paradigm: a critique of the adaptationist programme,"⁸ in which they showed that many biological features that have evolved in all species of plants and animals have not necessarily been the consequence of direct natural selection.

[Side Box: Direct natural selection is the preservation of certain features of some individuals within a species that confer on those individuals an advantage in terms of the number of offspring that they spawn. When a particular biological feature (controlled by genes and therefore inherited by at least some of the individual's offspring) allows individuals with that feature to have more offspring than individuals who lack that feature, the next generation will have a greater representation of that feature, and so on. After many generations this feature will become more and more common, until it predominates numerically, and, depending on the interaction with external circumstances, may or may not lead to the development of a new species with at least some characteristics that differ from the old.]

The adaptationist error is the claim that every single existing biological feature in plants and animals must be the result of natural selection, and by implication must confer some reproductive advantage, i.e., allow the possessor to have more offspring than those lacking that feature. Lewontin and Gould showed that many biological features just incidentally come along for the ride with others that are the subject of natural selection, but are not themselves selected, and therefore may not confer any advantage in the number of offspring.

They use the analogy of the "spandrels" of San Marco cathedral in Venice, Italy, where spandrels are the triangular expanses of wall or ceiling between two adjacent arches supported by the same column. The architects deliberately designed the arches and the columns, both as ways of supporting the heavy roof, but did not deliberately design the triangular spaces between two arches sharing the same column. That space came along as a necessary but incidental accompaniment of the two arches. Artists then made use of these triangular spaces to paint angels pouring water down into these triangles as though they were pouring into a funnel. So while the triangular spaces may be well adapted to the artists' desire to use them to represent funnels, the spaces were only a necessary accompaniment to the requirements of structural strength.

The adaptationist error then would correspond to a claim that the architects designed these spaces in order to satisfy the artists' desires, when the truth is that the architects, needing to support the roof, could not have avoided including those spaces even if they had wanted to. Similarly, Lewontin and Gould argue, many biological features necessarily, or perhaps incidentally, accompany other features that are the subject of natural selection, but have not themselves been selected.

De Waal makes this adaptationist error in a number of places. He repeatedly takes for granted that such things as selfishness, selflessness, aggression, reconciliation, morality, etc. are biological and the result of natural selection, rather than being incidental to natural selection and instead the result of cultural developments. Only the neurological *prerequisites* for such complex behaviors, such as those that allow us to recognize other individuals, are biological, but even those have not necessarily been selected directly. It is quite a difficult matter, and in many cases may be impossible long after the fact, to distinguish which biological features have been selected and which are incidental.⁹

Biological determinism

While generally arguing for a *cultural* origin of many complex behaviors in primates, nevertheless de Waal is inconsistent and seems to be caught up in the ubiquitous fallacies within the broader discipline of biology that hold that biology *determines* complex behaviors. For example, after a balanced discussion of the debate over whether certain behaviors are different in male and female humans, and whether such differences are biologically determined or arise from different upbringings in a sexist culture, de Waal ends up subscribing to the sexist conclusion that, in particular, the capability of sympathy for others is biologically stronger in females than in males.

For a second example, he erroneously claims that the drive for power is a universal feature of all humans and goes on to conclude that this drive is a biological trait rather than a feature of some humans in particular social organizations and cultures.

He further claims that nature has directly selected conscience and the human ability to internalize rules of behavior, rather than that natural selection has, both directly and indirectly, led to biological neurological arrangements in humans that *permit* the cultural development of conscience and the development of internalization of rules. After all, there are people (including but not restricted to the capitalists) whom capitalism has taught to ignore certain rules that most of the working class has been taught to incorporate, including conscience toward other workers. This class pattern of variation within the human species demonstrates that such complex behaviors are not biologically determined but rather are cultural and predicated in part on class membership.

De Waal claims further that the tendency toward hierarchical organization of society is hardwired, as is sociability (which he attributes to direct natural selection). That's like saying that tendencies toward reading and writing are hardwired in humans. It would be more correct to say that reading and writing are capabilities rather than tendencies, since calling them tendencies suggests that they would develop in children spontaneously,

without having to be taught. Furthermore it suggests that a tendency toward hierarchy existed even in non-hierarchical hunter/gatherer societies or that a tendency toward reading and writing predated the invention and dissemination of writing--a metaphysical concept, incapable of proof or disproof, and therefore without any place in scientific investigation.

Of course, the new school of evolutionary psychology, which has risen in part to compensate for the disfavor into which sociobiology has fallen, claims that a tendency toward hierarchy did not predate hunter/gatherer societies, but rather evolved out of their trials and tribulations through natural selection a couple of million years ago. While this is not metaphysical, it is pure speculation and shares with metaphysics the incapability of being proved or disproved.[10](#)

In summary

When it comes to the study of non-human primates, de Waal is a keen observer who places high demands on himself for consistency, and high demands on his observations for evidence before drawing conclusions. On the other hand, when it comes to humans de Waal often seems to throw up his hands and rely on the writings and teachings of others, often the very sociobiologists and biological determinists whose work he so cogently criticizes in its application to apes and monkeys. This step-off approach to science amounts to a sort of tunnel vision and often renders de Waal's statements about humans of little use to the working class. If we are to draw any lessons about humans from his work on non-human primates, we will have to rely on ourselves.

In particular, among his strengths are his view of aggression and other complex behaviors as relational (and therefore cultural) entities rather than individual (and biological) traits. Among his weaknesses are his anticommunism, his adaptationist errors, and his biological determinism when it comes to humans.

But despite de Waal's weaknesses there is much to learn from his work, and from that of other primatologists. In particular, it can help to free us from enslavement to a fatalistic view of a "human nature" that is hardwired and unchangeable, and that dooms us forever to capitalism as the system that best suits our alleged selfish, aggressive, and by extension, racist and sexist "natures." It is the social organization of capitalism itself that spawns the culture that encourages these behaviors. But humans have shown themselves capable of organizing communist societies that discourage, and can eventually abolish, these negative behaviors, in favor of selfless, cooperative, and egalitarian social relationships.

In his description of the stopping of fights by alpha male chimps in order to regain social peace, de Waal demonstrates--at least incidentally if not intentionally--that when members of the working class reap the rewards that come from contributing to the well-being of our class, rather than from serving our own immediate individual needs first, this can constitute a strong incentive to such behavior. We do not need to violate any aspect of our "nature" in order to make this the basis of our rules of social interaction, and

experience has shown, and will show again, that such rewards have been capable of motivating humans to far greater social achievements than those derived from "keeping the food for oneself."

[Side Box: Why is the study of non-human primates of value to the working class? There are a number of reasons, among them the following:

Discovery of the likenesses and differences in the complex behaviors of humans and other primates helps us to understand the connectedness of nature.

This, in turn, helps confirm the natural evolutionary development of one species out of ancestral species.

By strengthening the concept of the natural evolutionary development of species we weaken the religious, non-scientific concept of separate creations and creation by intentional design. Both of these concepts undermine the ability of the working class to examine the real world around us and to differentiate between valid and invalid conclusions about it.

By noting the differences between humans and other primates we can more clearly perceive the commonalities among all humans, thereby helping to undermine the foundations of racist and sexist theorizing.

At the same time, by understanding the differences, within primate groups, between those characteristics that are determined by biology (genetics) and those that are determined by culture (learned and taught behaviors), and the relationship between these, we help to combat false theories of the biological inevitability of capitalist behaviors among humans--such as selfishness, racism, sexism, genocide, exploitation, slavery, and imperialism. Of course, a two-sided study of human history also puts the lie to the inevitability of capitalist behaviors, but biological determinism confuses the issue and needs to be fought on its own grounds, as well.

The study of non-human primates helps us to perceive the cultural plasticity of all primate (including human) behavior. It strengthens the vision that humans are capable of organizing a complex egalitarian communist society. Contrary to the lies of the hired intellectual representatives of the capitalist ruling class, communism does not run counter to "human nature."]

References

- [1](#) De Waal, F.B.M. 1996. *Good Natured: The Origins of Right and Wrong in Humans and Other Animals*. Cambridge, Mass: Harvard University Press.
- [2](#) Wilson, E.O. 1975. *Sociobiology: The New Synthesis*. Cambridge, Mass: Harvard University Press.
- [3](#) Rose, H. and Rose, S. 2000. *Alas, Poor Darwin: Arguments Against Evolutionary Psychology*. New York: Harmony Books. (This is a useful collection of essays by sociologists, biologists, neuroscientists, ethologists, geneticists, paleontologists, and others. Some are better than others, but all contribute to understanding the errors inherent in evolutionary psychology.)
- [4](#) Bruer, J.T. 1999. *The Myth of the First Three Years: A New Understanding of Early Brain Development and Lifelong Learning*. New York: The Free Press.
- [5](#) Thornhill, R. and Palmer, C.T. 2000. *A Natural History of Rape: Biological Bases of Sexual Coercion*. Cambridge, Mass: MIT Press. (Also see the critical book review by Coyne, J.A. and Berry, A. Rape as an Adaptation: Is this contentious hypothesis advocacy, not science? *Nature* 2000; 404:121-122.)
- [6](#) Bohm, D. 1957, reissued 1996. *Causality and Chance in Modern Physics*. Philadelphia: University of Pennsylvania Press. (While ostensibly about physics, this is one of the most useful discussions of the relationship of different levels of organization of matter and the emergence and relative independence of new laws at higher levels. Most of the book does not require any specialized knowledge of physics.)
- [7](#) Pine, D.S. et al. Neuroendocrine Response to Fenfluramine Challenge in Boys. *Arch Gen Psych* 1997; 54:839.
- [8](#) Gould, S.J. and Lewontin, R.C. The spandrels of San Marco and the Panglossian paradigm: a critique of the adaptationist programme. *Proc. R. Soc. Lond.* 1979; B 205,581-598.
- [9](#) Lewontin, R.C. Adaptation. *Scientific American* Sept. 1978; 212-230.
- [10](#) Rose, H. and Rose, S., *Ibid.*