BIOLOGICAL CONTINUITY AND GREAT APE RIGHTS

By
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Finding the best approach to ensure that great apes will not succumb to the senseless destruction that humans inflict upon them, which could ultimately lead to their extinction, is an imposing task. Deforestation, poaching, and draining wild ape populations for the purposes of economic gain, personal gratification, and laboratory research have been ongoing problems spanning several decades. Over the past ten years, maintaining captive populations has been of great concern as well. One exigent concern is the large number of chimpanzees who are used in biomedical research; that number is estimated at nearly two thousand individuals in the U.S.[1] Efforts are underway that we hope will sensitize the public to what is happening in many laboratories. Federal health, sanitation, and enrichment standards leave a lot to be desired, as does the compliance with these standards by laboratories housing hundreds of chimpanzees.

Attempts to extend legal rights across the species barrier have begun. Granting great apes—chimpanzees, bonobos, gorillas, and orangutans—certain basic rights to life will prevent much of the exploitation that they currently endure. The main thrust of this essay is to approach the legal rights issue with an argument based on biological relatedness. What I hope emerges from this is an awareness that differences in kind between our species and our fellow animals are an illusion maintained by human arrogance. This reality is reflected in the continuity that exists between ourselves and apes. Even though the angle taken here is from the great ape side, the great apes are not the only species deserving of legal protection. This is only the beginning of the journey toward an awareness that all of our fellow animals deserve respect and compassion.

Evolution as Progress

Our species bias is a difficult problem to solve. A complete discussion of its origins is beyond the scope of this paper. However, products of our species bias are apparent when considering how humans have viewed nature and her organization. Ladders and chains are common metaphors

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[1] Martin L. Stephens, *Chimpanzees in Laboratories: Distribution and Types of Research*, 23 Alta 579, 579-583 (1995).

used to illustrate nature. Although it has been a common metaphor since Aristotle's time, the image of a ladder superimposed upon nature does not depict reality. Chains, as in *The Great Chain of Being*,[2] are also misleading metaphors used to describe nature. In the spirit of such metaphors, evolution means progress. One link connects to another, which in turn connects to another, and so on. Which link represents which species? Do leaches occupy the exalted final link? Do they creep along the highest rung on the ladder? Perhaps what is most alluring about these conceptions is that they allow humans, rather than nature, to decide who is placed where on the scale. These metaphors only work for those who are anthropocentric and ignorant of basic biological principles. After centuries of use, the metaphors are difficult to replace, largely because they are simplistic. They also allow us to falsely justify our exalted place in, and outside of, nature. These approaches have spread their virulent ignorance throughout Western thought.

Current evolutionary thought began its most progressive development a century and a half ago.[3] Despite this, many humans continue to cling to the nonreality of biological discontinuity between species. However, a look at any recently drawn phylogenetic "tree" will show that the ladder and chain metaphors should be abandoned. In contrast to ladders and chains, bushes and trees provide more accurate metaphors for natural evolution: All biological beings ultimately can be reduced to a common ancestral stock, like a trunk.

Many humans have changed their outlooks upon nature after discovering that nonhuman animals are complex thinking beings. Decades of ethological research demonstrate that organisms living within their own worlds lead extraordinary lives with many unique qualities. The nervous system of any creature—bee, monkey, or human—exceeds the complexity of individual physical and chemical processes as we understand them. From a human point of view, behavior is a mixture of nervous and endocrine system activity. We are still learning just how complex chimpanzee behavior is; it is impossible to predict everything that a chimpanzee is going to do. The best way to learn about chimpanzees is to approach them in a naturalistic, noninvasive way. Patterns of behavior often emerge after intense, lengthy observation, and predictions improve once the organism is better understood.

This is the research approach taken at the Chimpanzee and Human Communication Institute (CHCI). Under the direction of Roger and Deborah Fouts, a large group of volunteers, interns, and graduate students study and promote the behavior, signing, and well-being of five chimpanzees housed at CHCI. The chimpanzees, Washoe, Moja, Tatu, Dar, and Loulis, all use American Sign Language (ASL). Humans cross-fostered

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2 ARTHUR LOVEJOY, THE GREAT CHAIN OF BEING 183 (1960).

3 *See generally* CHARLES DARWIN, ORIGIN OF SPECIES (1859).

Washoe, Moja, Tatu, and Dar and taught the chimps their signs.[4] Washoe adopted Loulis, who learned his signs from the other chimpanzees.[5]

While working with Washoe and the other chimpanzees, the researchers Allen and Beatrix Gardner avoided the traditional structured laboratory environment.[6] Instead, the Gardners carefully studied the chimpanzees' behavior in an enriched, home-like environment.[7] Discovery is one of the greatest benefits of well-done science, and this research continues to generate a plethora of discoveries. The approach of taking the chimpanzees on their own terms and not strictly structuring their environment is consistent with the non-invasive, ethological approach adopted. Related projects carried out in other laboratories have had limited success because of the regimented routine and overly structured environment imposed on the chimpanzees.[8]

Jane Goodall is a pioneer in the field of chimpanzee behavioral research. With over thirty years of work at the Gombe Stream Reserve in Tanzania, Goodall has amassed what is best described as a longitudinal study of another culture.[9] Goodall and a large contingent of American, European, and Japanese researchers have gathered wide bodies of data that have been compared between study sites.[10] Convincing evidence of social customs, communication, tool use, warfare, peace, alliances, and emotional expression has manifested itself in the daily activity of wild chimpanzees. These behaviors vary between populations.[11] Chimpanzees lead very complex social and emotional lives.

While wild chimpanzee populations are jeopardized by destruction of their habitat, captive chimpanzees face different dangers.[12] The majority of captive chimpanzees in the United States undergo surgeries for ailments that are imposed upon them and suffer injections of infectious viruses and chemicals. They are also forced to entertain and amuse the pubic in commercials, greeting cards, casino shows, and circuses. This exploitation is a product of arrogance and lack of compassion for nonhuman beings. These viewpoints have created an arbitrary dichotomy between humans and nonhumans that has existed for centuries, with moral obligations reserved only for humans.

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4 *See generally* TEACHING SIGN LANGUAGE TO CHIMPANZEES (B.T. Gardner & T.E. Van Cantfort eds., 1989).

5 Roger S. Fouts et al., *Cultural Transmission of a Human Language in a Chimpanzee Mother-Infant Relationship*, *in* 3 PSYCHOBIOLOGICAL PERSPECTIVES: CHILD NURTURANCE 159-193 (H.E. Fitzgerald et al. eds., 1982).

6 R. Allen Gardner & Beatrix T. Gardner, *A Cross-Fostering Laboratory*, *in* TEACHING SIGN LANGUAGE TO CHIMPANZEES, *supra* note 4, at 1-28.

7 *Id.*

8 Thomas E. Van Cantfort & J.B. Rimpau, *Sign Language Studies with Children and Chimpanzees*, 34 SIGN LANGUAGE STUDIES 15, 15-72 (1982); Herbert S. Terrace et al., *Can an Ape Create a Sentence?*, 206 SCIENCE 891, 891-902 (1979).

9 *See generally* JANE GOODALL, THE CHIMPANZEES OF GOMBE (1986).

10 *Id.*

11 *Id.*

12 THELMA ROWELL, THE SOCIAL BEHAVIOR OF MONKEYS 67-83 (1972); WILLIAM MONTAGNA, NONHUMAN PRIMATES IN BIOMEDICAL RESEARCH 14 (1976).

Not surprisingly, in a historical sense, one side of this dichotomy has only recently encompassed all humans (although exceptions still exist). Aristotle stated that enslaving men was wrong—if they were Greeks.[13] The dichotomy was between Greeks and non-Greeks. Similar intrahuman struggles have existed for centuries. Differences between human groups have led to exploitation and mistreatment. Historically, science and other endeavors have been used to justify the situation. Scientists have historically enjoyed the luxury of couching their racist and "speciesist" claims in jargon and numbers that are beyond the understanding and criticism of lay persons. However, attempts to show Caucasian superiority through science are not confined to the past.[14] Richard Herrnstein and Charles Murray's book, *The Bell Curve*, is perhaps the most recent attempt to promulgate the idea of racial inferiority.[15]

Humans have yet to completely extend equality to each other. However, two wrongs do not make a right. The wrongdoing that humans inflict upon one another does not justify discounting the importance of taking care of our fellow animals. The issue is one of responsibility, not of prioritizing on the basis of some hypothetical limit to the human capacity to care for other beings.

Continuity in Nature

If natural dichotomies exist at all, they must be very rare. Regardless, plants and animals are split up into arbitrary units for the convenience of the compulsively organized mind. If two organisms share a common ancestor and are separated according to a certain criterion (reproductive isolation, character state changes, genetic differences), they are christened with a distinct Latin name. The highlighted differences between the two species are seen as important to humans but not necessarily to nature. The argument here is not anti-evolutionary at all. It is not even an attack on species concepts. Isolated populations, subspecies, and species are all components that are integral to the processes of evolution—incipient stages of an expansive and complex hierarchy. However, the hierarchy can always be criticized as arbitrary in some way because nature does not fit into a file drawer. Any criteria delineating a distinct species is arbitrary, because the line between one species and another is an artificial boundary. Charles Darwin realized this and acknowledged that species distinctions are not truly boundaries but merely categories of convenience.[16]

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13 ABRAHAM EDEL, ARISTOTLE AND HIS PHILOSOPHY 321 (1982).

14 STEPHEN J. GOULD, THE MISMEASURE OF MAN 33-34 (1981).

15 *See* RICHARD J. HERRNSTEIN & CHARLES A. MURRAY, THE BELL CURVE (1994); *see also* THE BELL CURVE WARS (Steven Fraser ed., 1995) (consisting of distinguished intellectuals' criticism of Herrnstein and Murray's reasoning).

16 DARWIN, *supra* note 3, at 98 ("It is immaterial for us whether a multitude of doubtful forms be called species or sub-species or varieties. . . .The mere existence of individual variability and of some few well-marked varieties, though a necessary foundation of the work, helps us but little in understanding how species arise in nature.").

Where are moral issues of concern? If two populations of mollusk are considered to be separate species, this piece of information about nature may become public knowledge, although probably in a fairly esoteric journal, with a few samples residing in various natural history museums. It is unlikely that anyone will accord any moral status to one and not the other. The line between the two species has very little meaning outside a small circle of zoologists. Moral issues usually appear when humans are involved. Moral boundaries turn out to be just as illusory as species boundaries, and exclusion is traditionally justified on the basis of perceived differences.

Evolutionary Algorithms

Without variability, natural selection has nothing on which to operate. Evolution relies on the selection or rejection of differences in organisms. Nature is lush and diverse because variation exists and natural selection acts on it; natural selection tidies the edges. Surprisingly, differences between organisms are derived in a sheerly mindless way. The differences between species should not be viewed as qualitative. They are not there for human adjudication. Human existence is not qualitatively different from nonhuman existence. The processes that gave rise to human uniqueness are not fundamentally different from those giving rise to nonhuman uniqueness. Any human attributes that appear to be unique are there because of mindless, algorithmic evolution.

Natural selection as an algorithmic process is illustrated by Daniel Dennett in his review of Darwinism and the modern synthesis of evolution.[17] Algorithms have made contraptions such as computers possible. Algorithms are processes that logically produce certain results whenever they are activated. Their power is in their ability to generate sense out of a series of simple, mundane steps. Algorithms are prescribed to produce infallible and reliable results. The orderly arrangement of icons, menus, and commands on a computer screen are the complex products of very dull computer language.

Like natural selection, algorithms can produce interesting results. Algorithms can also produce trivial, superfluous results. Regardless of what the products are, they are there because they are conducive to survival. A unique feature in any organism exists because nature relaxed biological constraints and allowed for the development of novelties. This is why species differentiated in the first place, and why they continue to do so. Humans must acknowledge that they originated from the same humble, unextraordinary processes as nonhumans. The progress in biological theory and fact should give humans reason to appreciate their unassuming place inside of nature.

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[17] DANIEL DENNETT, DARWIN'S DANGEROUS IDEA: EVOLUTION AND THE MEANINGS OF LIFE 48-60 (1995).

The Human Ape

We are actually another species of ape. Every bit of reasoning in the field of animal taxonomy states that we are apes. Strangely enough, we are not appropriately grouped with apes. Current taxonomy exaggerates the differences. Clearly, this is a political issue. We are only a handful of decades beyond the *Scopes*[18] trial now; having a 'monkey for an uncle' is still unspeakable to many. This is only the surface of the issue regarding legal and ethical treatment of chimpanzees. Using taxonomy as a starting point does not simplify the issue at all, but begins a discussion on how arbitrary dichotomies have profound effects on the treatment of sentient beings. Many of the gaps that appear to exist in nature have turned out to be gaps in knowledge, scholarship or perception.

Claiming autonomy from nature is a common human interest. "Man the tool-maker" was once our claim to uniqueness.[19] However, this claim has been refuted with examples of tool use in birds, otters, apes, and other nonhuman animals.[20] Language was also considered unique to humans, and many still hold on to this notion. However, the last thirty years of research in the area of great ape communication have undermined this contention.[21] Nevertheless, the ongoing search for a trait that would distinguish humans from nonhumans continues. Since the use of language is an area that is closest to my field of study, it serves as a good way to illustrate the similarities between chimpanzees and humans.

The chimpanzees Washoe, Moja, Tatu, Dar, and Loulis — at the Chimpanzee and Human Communication Institute (CHCI) — use American Sign Language (ASL).[22] The chimpanzees sign with their human care givers, with each other, and to themselves. This is a very significant similarity between humans and chimpanzees. Definitions of language change, so "rubber rulers" are often applied to our research area. We are neither philosophers nor linguists, but have put the research into the framework of child development; this is the most productive avenue of comparison. The linguistic output of children can readily be compared to that of chimpanzees. Gardner and Gardner state that "[s]o much commentary has concentrated on this or that traditional barrier between human and nonhuman or between language and nonlanguage that many have failed to appreciate the developmental perspective of the research."[23] This research has allowed for empirical comparisons of vocabulary, phrase development, and sign use between chimpanzees and humans. The chimpanzees can ex-

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18 Scopes v. State, 154 Tenn. 105 (1927).

19 KENNETH OAKLEY, MAN THE TOOLMAKER 1 (1956).

20 JOHN ALCOCK, ANIMAL BEHAVIOR 357-60 (1975).

21 *See, e.g.*, Mark D. Bodamer et al., *Functional Analysis of Chimpanzee (Pan troglodytes) Private Signing*, 9 HUMAN EVOLUTION 281-296 (1994).

22 *Id.*; Fouts et al., *supra* note 5, at 159-93; TEACHING SIGN LANGUAGE TO CHIMPANZEES, *supra* note 4.

23 Beatrix T. Gardner & R. Allen Gardner, *Development of Phrases in the Utterances of Children and Cross-Fostered Chimpanzees*, *in* THE ETHOLOGICAL ROOTS OF CULTURE 223 (Nato ASI Series eds., 1994).

press their intelligence using ASL as their mode of communication. This is done in their own distinct ways as well as in ways that are markedly similar to human beings.

The five chimpanzees are now adults and continue to use ASL in their social interactions. The research at CHCI continues to be based on the chimps' use of ASL, but we also study psychological well-being and enrichment. We realize that the chimpanzees are not here by their own will. However, because they have been human enculturated, releasing them into the wild would be comparable to dropping a human who lives an urban lifestyle into the jungle with no shelter, cell phones, books, or clothing.

Work that has been done on wild chimpanzees and in various laboratories such as ours has shown just how similar chimpanzee and human behavior is. Not surprisingly, this degree of similarity is also present at the biochemical level. Genetically, a mere .4% of working DNA differs between chimpanzees and humans with an overall genetic similarity of 98.4%.[24] This is a substantial similarity. Interestingly, two species of gibbon, who are only separated at the species level, differ in 2.2% of their genetic material.[25] These findings are testimony to how taxonomy exaggerates the actual differences between humans and chimpanzees.

In extending basic rights to the great apes, three principles emerge as legal guides to protection that extend across the species barrier:[26] the right to life, the protection of individual liberty, and the prohibition of torture.[27] The arguments supporting this extension of basic rights to great apes are based on arguments from science, philosophy, and law.[28]

Arguments For Biological Similarity

Perhaps the most compelling argument for this unprecedented extension of basic rights comes from the evidence for the biological and behavioral similarities between great apes and humans. The evidence for biological and behavioral similarities between great apes and humans exposes almost everything that is arbitrary, unreasonable, and unethical about mistreating great apes.

Richard Dawkins, a well-known ethologist from Oxford, illustrates biological similarity by showing how close chimpanzees are to humans with the concept of a ring species.[29] Ring species, also known as *Rassenkreise*, are interesting pieces to nature's puzzle.[30] This phenomenon underscores the concepts of evolution and biological continuity. For example, there is

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[24] CARL SAGAN & ANN DRUYAN, SHADOWS OF FORGOTTEN ANCESTORS: A SEARCH FOR WHO WE ARE 276-7 (1992).

[25] JARED DIAMOND, THE THIRD CHIMPANZEE 23 (1992).

[26] *See generally* THE GREAT APE PROJECT: EQUALITY BEYOND HUMANITY (Peter Cavalieri & Peter Singer eds., 1993).

[27] *Id.*

[28] *Id.*

[29] Richard Dawkins, *Gaps in the Mind*, *in* THE GREAT APE PROJECT: EQUALITY BEYOND HUMANITY, *supra* note 26, at 80-87.

[30] *Id.*

a ring species of both the herring gulls and the lesser black-backed gull, which are distinct species inhabiting the British Isles.[31] If the herring gulls are followed across their expansive range—across the North Pole to North America, then to Siberia via Alaska and then back to Europe—they eventually become less similar to herring gulls and more like lesser black-backed gulls.[32] At each point around this ring, the birds are capable of interbreeding.[33] However, if a herring gull is displaced to a far off region of the ring, the gull probably will not be able to interbreed with the inhabitants (which are more similar to the reproductively isolated lesser black-backed gull).[34] This is a perfect example of a well-preserved biological continuum.

What does this have to do with the relationship between great apes and humans? Conceptually, the main difference between the ring species illustrated above and the human-great ape relationship is that the intermediate forms are extinct. Rather than geographic displacement, humans and great apes are displaced in time. This begs a hypothetical ethical question: if the great ape-human continuum was filled in with the intermediate species and those that branched off and became extinct, where would the line be drawn? Would *Homo erectus* suffer from the exploitation that *Homo sapiens* is so apt at delivering? What about the *Australopithecines*? When would one group lose out on basic rights? Given the continuum of nature, an unwarranted dichotomy would have to be drawn. Without a doubt, forcing this dichotomy upon nature would divide two groups of beings that can interbreed and definitely have emotional bonds with one another. The arguments from evolutionary relatedness underscore 1) the absurdity of excluding great apes from basic rights; 2) the arbitrary nature of exclusion; and 3) just how similar all five ape species really are.

The exploitation of nonhuman animals occurs across every piece of the continuum. This essay takes a step toward establishing an argument for equality in legal protection for nonhuman species. James Rachels, a contributor to *The Great Ape Project* and a scholar in Darwinian thought, synthesized Darwin's moral philosophy: "The highest level of morality is reached when the rights of all creatures, regardless of race, intelligence, or even species, are respected equally."[35] Extending altruism beyond the species boundaries may seem an impudent proposal, but it is one that deserves serious consideration. What has become apparent through research such as ours is that humans are exploiting another species that really are persons. History may prove that humans of our era exhibited an arrogance that was lethal not only to the existence of other nonhuman forms, but to humans themselves.

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31 *Id.*

32 *Id.* at 82.

33 *Id.*

34 *Id.*

35 James Rachels, *Why Darwinians Should Support Equal Treatment for Other Great Apes*, *in* THE GREAT APE PROJECT, *supra* note 26, at 152-53.