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Insulting words: "They are animals!"
Commentary on **Chapman & Huffman** on *Human Difference*

Carolyn A. Ristau
Associate, University Seminars
Columbia University, New York

Abstract: As Chapman & Huffman state, creating divisive human categories has rationalized atrocities committed against the "other." Labeling neighboring warring villagers as "animals" is considered a despicable insult. Yet contemporary scientific views of many animals grant them thinking and conscious faculties, and the capacity for impressive achievements, many unattainable by humans. Robots, too, can accomplish many similar feats. But the essential reason we must protect animals is not because of their admirable abilities, but their capacity for consciousness, for suffering. Robots are not conscious. Participants in the human-animal debate should not complain about changing criteria for determining human uniqueness. New and refined hypothesis-making is the stuff of science.

Carolyn A. Ristau is a cognitive ethologist whose research includes field studies of cognition and communication in primates and plovers. She also investigates human ethno-political conflict and cooperation, primarily in Africa. Currently, she is writing a biography of Donald Griffin. **Website**

Insults

"They are animals!" This, the comment of a villager in a remote area of the Niger Delta swamps in Nigeria. The inhabitants were literally at war with those of other villages, many trying to claim others' land in case any oil might be found, and a great bonanza of expected goodies from oil companies could thereby materialize. The scene was the midst of a Conflict Resolution Workshop attempting to defuse the hostilities and stop the killings of young men that had already ensued. The comment was about the worst insult that could be hurled: no longer a man of God, non-thinking, a status far beneath any consideration (animals were generally treated very poorly by the inhabitants). In fact, the warring parties were about as alike in every detail of existence, poverty and goals as one could imagine. Fortunately, but to little practical consequence, by the end of the few days' gathering, the assemblage, including that villager, were quite astonished to recognize how similar they all were (Ristau, personal observation, 2000).

So, yes, categorizing can and does lead to foul behavior. As to the impressive array of animals' abilities noted by Chapman & Huffman (C & H), I agree (Ristau, 2013; see also Wilson, 2019). And indeed, those are merely the talents we are currently aware of. The partial list warrants repeating: tool use exhibited by several primate species and many non-primates such as elephants, Caledonia crows, African gray parrots, sea otters, rodents, octopuses, and some fish; and medicinal use by chimpanzees and other primates; by other mammals including bears, civets,

coatis, and porcupines; by birds such as snow geese, finches, and raptors; and by insects such as bumble bees, ants, and butterflies. C & H also cite various species' complex constructions.

Robots can do it

These are impressive examples — but apart from using medicines, robots can do just about all these things too. And some semi-robots, e.g., vehicles, can communicate to us humans about their needs, e.g., when more oil is needed or engine temperature is excessive. The capacities of robots are vast and growing rapidly, including the construction of the largest 3-D-printed bot-made building (Keating et al., 2017); in factories, robots make cars, candy bars and complicated technology. There is concern over "governing" the use and abilities of ever more intelligent robots (Lohr, 2019), for they can be created not merely to learn, but to learn to improve themselves. Humans often cannot comprehend the reasoning by which some robots achieve their various masteries, for the machine learning systems are so complex and the data so vast that it may be impossible to explain just *how* decisions are being made. It goes beyond saying that robots are doing things humans cannot. Yet the argument remains that it is a human who constructs the robot and gives it the path, the programming, to develop its talents. Even that line of reasoning may falter as computers gain further abilities to modify their programming.

Suffering is the essential matter

The central message is that although a description of the abilities of animals (or of robots) evokes admiration, it is not the critical aspect that we need to consider in our interaction with animals. That matter is consciousness, more particularly, the ability to feel pain, to suffer. This is the primary issue raised by Harnad (2016) in the very first article published in this journal — and now again by Shackelford (2019) in his commentary on C & H. We share that ability with animals, not with robots. That is the fundamental reason for treating animals with respect, to avoid causing them injury, and indeed to strive to safeguard, and improve, if possible, their well-being. That's the essential argument.

Much has been written to bolster the proposition that animals are conscious and experience pleasure and pain. In 1976, Donald R. Griffin wrote a small, seminal book, *The Question of Animal Awareness,* followed by other books (Griffin, 1981, 1984, 1992, 2001) suggesting that scientists should be investigating that possibility. The books were met with vehement castigation … along with a few congratulatory analyses. Since then, much constructive thinking and pertinent and converging research has been conducted in the fields of animal behavior, neuropsychology, neurophysiology, neuroanatomy, animal communication, ethology, and philosophy; and attitudes and interpretations have changed. This entire journal is dedicated to the matter of animal sentience; just refer to any issue to find literally hundreds of references.

Numbers and language

A few additional, specific comments follow. As I understand C & H's description of Inoue and Matsuzawa's work (2007), chimpanzees have accomplished serial learning, repeating a learned order or sequence, not "number learning," as C & H seem to be *implying.* The sequence could

consist of objects, symbols, sounds, or, yes, numerals a.k.a. number symbols. To demonstrate that *numbers* per se have been learned requires far more, including the subjects must be able to know the actual number of items that the symbol of the number represents; they must understand that each number is one more than the previous one, i.e., that adding one produces the next number in the sequence (Gelman & Gallistel, 1978, 1986). Inoue and Matsuzawa's subjects may have achieved these understandings as shown in other research, but the description offered does not support the interpretation that "numbers" have been learned. The actual quotation from Inoue and Matsuzawa is circumspect about the abilities achieved.

An issue often raised by critics in discussions of the human-animal divide concerns the superiority of human language over animal communication, with claims that it is an evolutionarily distinct capacity. Many of us, myself included, promote the case for evolutionary continuity between animal cognition and communication and human cognition and linguistic ability, while agreeing that human language appears to be far more complex than the communication of other species (Ristau & Robbins, 1982). Readers might be interested in Terrace's (2019) book *Why Chimpanzees Can't Learn Language and Humans Can*. Even though I disagree with its conclusions and many of its interpretations, it summarizes interesting research and is thoughtful, well-argued, and well-reasoned.

The stuff of science

Finally, as to C & H's grumbles about scientists continually conjuring up new hypotheses concerning the potential differences between humans and non-humans when old theories collapse, alas, that is the *stuff* of science. Yes, it is like changing the goalposts, but as science progresses, we modify and fine-tune our hypotheses. That's our business.

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