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Watch Your Language! Racially Loaded Metaphors in Scientific Research

JOAN M. HERBERS

For 200 years, entomologists have used slavery as a metaphor for the behavior of some highly specialized insects. The “slave-making ants” are obligate social parasites that exploit the work forces of their hosts, another ant species. Scouts find colonies of their host species and then recruit nestmates to raid the colonies for their hosts’ larvae and pupae. The raiders return with their booty and rear them to adulthood; when the allospecific pupae emerge as adult ants, they behave as they would in their natal nests, and start caring for the brood pile, cleaning the nest, and the like. The social parasites themselves are unable to perform typical ant chores like foraging, and thus are completely dependent on the work performed by their captives. The captives do not reproduce, causing the parasites to repeatedly raid host colonies to replenish their work force.

This syndrome, christened *dulosis* (from *doulos*, the Greek word for slave), is among the most remarkable behaviors known in the animal kingdom. Recent work on these fascinating insects has positioned them as important systems for studying nestmate recognition and the geographic mosaic of coevolution. As a result, they are attracting attention from the popular press as well.

When we scientists speak to each other, we fully understand that using metaphors from human institutions to describe animal behavior implies nothing about the human institution itself. However, neither our students nor other members of the public necessarily share that understanding. Audiences have often asked me about the human institution of slavery, and I have explained that insect behavior does not inform us about human slavery, nor does it offer any justification for that practice. Yet the association persists, and

is of particular interest to those of African descent (Anonymous 2002). Despite being outlawed in every country, the institution of slavery continues, with an estimated 27 million human beings in subjugation today; the persistence of slavery and human trafficking should cause us to rethink our use of the metaphor.

I am especially troubled that “negro ant” refers to the species *Formica fusca*, a species raided by the obligate social parasite *Formica sanguinea*. A Google search on 23 August 2006 turned up more than 100 Web sites using this terminology, among them the BBC and Biodiversity Scotland. Yet “negro ant” is not endorsed as a common name by the British Entomological and Natural History Society, and the Canadian Entomological Society refers to the same species as the “silky ant.”

The *Oxford English Dictionary* has 13 listings of biological entities such as negro-corn, negro fly, and negro monkey. For 12 of those, “negro” refers to black pigmentation or use by Africans as foodstuffs; only “negro ant” connotes the institution of slavery. The slavery metaphor for ant raiding was introduced early in the 19th century, and used by Charles Darwin himself. Thereafter, the term “slave-making ant” became entrenched in the entomological literature. Sleight (2003) explores how social insect imagery in literature and political discourse has served to reinforce the prevailing social order, especially in Victorian England. Her analysis strongly suggests that using the slavery metaphor today is anachronistic, and I submit that it is time to discard it altogether (Herbers 2006).

More than 20 years ago, the scientific community explored the rhetorical power of emotionally laden words for describing animal reproductive behavior. In particular, the use of “rape” was

challenged in favor of the alternative term “forced copulation” (Hilton 1982). My search of titles in *Animal Behaviour*, *Behavioral Ecology and Sociobiology*, and *Behavioral Ecology* yielded only one article since 1982 that referred to rape in animals; *Evolution* published three articles with “rape” in the title—all referring to mustard plants. Clearly, scientists were persuaded and changed their jargon (Zuk 1993).

Let us apply to the slavery metaphor those arguments developed for changing the jargon of animal reproductive behavior. First, using human labels to describe animal behavior implies similarities that may be mistaken. Indeed, my experience verifies that use of the slavery metaphor triggers a connection with human brutality that is hard to shake (Anonymous 2002). Second, such terms are offensive because they evoke negative human experiences and can serve to reinforce the prevailing social order (Zuk 1993). More than one colleague has expressed this point of view to me concerning the slavery metaphor.

Third, I assert that by using such terms we may be harming the scientific enterprise itself. Because science is a culturally bounded human institution, we scientists can learn about the impact of our jargon from scholars of rhetoric. For example, Toni Morrison has studied how literary interpretation has been hampered by inattention to the fact that our societies are racially charged (Morrison 1992). Similarly, we must consider how our words affect public understanding and acceptance of science. In the United

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States, we are technologically dependent yet scientifically illiterate, and using jargon that discourages even one individual from learning more about science is simply irresponsible. I find it hard to imagine a young black student being attracted to a discipline that calls parasitized insects “slaves” and “negro ants.”

A final argument for discarding the slavery metaphor questions its aptness to the behavior we study. Ants depart from human slave owners in much of their behavior. They neither breed nor auction off their captives. Newly fertilized parasite queens must invade and take over an established host nest in order to secure the workforce needed to tend their eggs; this invasion behavior has no counterpart in human slavery. The metaphor is, at best, imperfect.

Yet discarding metaphors altogether in favor of obscure jargon is incompati-

ble with interesting students and the public in my work. While no metaphor can be perfect, I offer an alternative. I suggest that we replace “slave-making ants” with “pirate ants.” Pirates certainly take captives when they board ships, and pirates rely on forced labor. We can replace “slave” with “captive” and “dulosis” with “leistic behavior,” from the Greek for pirated spoils, *leistos*. To be sure, the pirate metaphor has its own imperfections when we use it to describe ant behavior—but the social impact on audiences, if anything, might be positive. I, for one, prefer audiences to identify my work with Captain Jack Sparrow than with Simon Legree.

I submit that we scientists have a responsibility to communicate effectively. To do so, we must listen to those who study the impact of words. If the termi-

nology we use is degrading or offensive, then it is time to change the terminology.

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