Lab Animal Housing: Numbers or Common Sense?

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Clever Hans and the Humane Movement

I read with interest Susan Fowler's account of the Clever Hans conference (16):355-359, 1980. As I was not present I cannot comment on the manner of the participants, but as the editor of a humane magazine to which Dr. Thomas Sebeok frequently contributes, I would like to make a few observations on the matter.

It appears that Fowler overlooks an important issue raised by the ape and dolphin studies. Are we not, in our efforts to make animals utilize our own language (or symbols of it), ignoring the very sophisticated and effective communication systems already employed by the species? Fireflies send flash codes, fishes emit electronic impulses, moths advertise by scent— all kinds of animals communicate to survive, as individuals and as species. The assumption that the human mode of communication is superior (and so should be learned by the higher species) is of course speciesism: just because it works well for us doesn't mean that it will work well for them. One might well ask, if a researcher is so intent on communicating with a dog, why does he not learn to bark?

There is something to be said for appreciating and learning about animals as they are, and not for their ability to become like us. Indeed, the philosophical justification for the humane movement is evolving in just this direction. While Victorian animal advocates defended kindness to animals because they perceived animals as being similar to humans, or because cruelty made humans more bestial, modern trends indicate an appreciation of animals' basic right to humane treatment. (I recommend James Turner's recent book, Reckoning with the Beast, on this philosophical development.)

Of course it is fine that retarded children have benefited from the ape studies. But did we really need captive wildlife to discover that retarded people can use sign language? Why not just work directly with the retarded?

Finally, whether raised tactfully or not, the questions surrounding the Clever Hans phenomenon in ape and dolphin communications must be addressed. The incredibly subtle cues to which the animals respond (some far too subtle for human apprehension) may make it virtually impossible to completely eliminate it from the testing picture. Perhaps we should just admit this, leave dolphins in the sea and apes in the jungle, and study the intricate ways in which animals of all species actually do communicate.

It would not be surprising if Dr. Sebeok, who has devoted years to studying this real animal communication, has become frustrated by the popularization of the talking apes.

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At the Institute for the Study of Animal Problems' symposium on scientific and ethical issues in primate husbandry and use, (see Original/Review articles), Dr. William McGrew (Stirling University, UK) suggested that there was one very simple action that could be taken to improve the life of caged primates. Instead of keeping the animals in cages with slatted or hatched bases (to allow feces and urine to pass through), he suggested that they be kept in cages with solid floors covered with loose litter. Seeds and other particles of food could be thrown into the litter, giving the primates an opportunity to forage as they would in the wild. Dr. McGrew had experience with such a system at Stirling, and he reported that the animals appeared to be in a better psychological state. There was apparently little problem with odor, even though the litter was changed only every one or two weeks.

Dr. McGrew's remarks were challenged by Dr. William Mason (California Primate Research Center, Davis), who argued that it would be dangerous to take an anecdotal observation and generalize it to cover all situations in which primates are kept. This may be true for those researchers who are studying primate psychology and whose background knowledge of behavior is derived totally from primates kept in barren cages, but the qualitative information provided by McGrew appears strong enough to encourage at least some action in general primate facilities to improve the mental well-being of the animals. Dr. Mason's objections reflect a common failing among scientists today, namely, an urge to rely exclusively on numbers and statistical analysis of variance rather than on common sense.

This is not to say, however, that what is taken for common sense cannot lead one astray from time to time. Dr. William Paré (1977) found that an apparently improved situation for rat housing leads to premature deaths. Dr. Paré placed his rats in a living-cage which contained an exercise wheel. The rats were given unlimited access to water, and food was available for one hour per day. While such conditions (food, water and exercise) are apparently good for dogs, they produced dead rats. In the experimental groups, between 30 to 60% of the rats died within 21 days, while there were no deaths in the control group, which did not have access to exercise wheels.

This demonstrates, once again, the incredible complexity of the living organism and its interaction with environmental factors. It also indicates that we need to do far more work on the optimal housing of all types of laboratory animals, paying closer attention to ethological parameters as well as to mere physical survival. Dr. McGrew's 'common sense' innovation at the Stirling primate unit was based on ethological data taken from the field, which may help to explain its success. In contrast, Dr. Paré's failed innovation was based on an untested intuition about the benefits of unlimited exercise.

Wallace and Hudson (1969) have shown how simple it is to improve the housing conditions for wild mice and other small rodents. By taking data on nesting behavior and statistical analysis of variance rather than on common sense.

References