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Viewpoint

A wild analogy

"I don't know how *you* feel about zoos, but . . ." were the words that set me thinking. Like all biologists, I *love* zoos, but they just aren't enough. As a professional ecologist, I often find myself making a plea for preserving natural areas. Frequently, to jar people into listening and thinking, I adopt an antihomocentric stance, asserting, for example, that a wild rattlesnake has just as much "right to life" as you or I. Once, just after I offered to trade several average humans for one wild snake, I elicited the above remark about zoos.

It set me to thinking, "What is it, exactly, that is inadequate about a creature in a zoo?" The answer, of course, is that such a beast is totally out of context. Just as a word taken out of a paragraph loses much of its meaning and information content, an animal extracted from the wild no longer has a natural environment. Any given word is a subject, object, noun, verb, modifier, etc., with complex relationships to other words in the paragraph in which it resides; similarly, any wild organism is either a producer or a consumer and has its enemies, predators, potential competitors, and for many, its prey. Individuals also possess meaningful relationships to other members of their own populations, such as their own offspring, potential mates, neighbors on adjacent territories, kin, and so forth.

Reductionists, including molecular, cellular, and some physiological biologists, find little inherent shortcoming in a zoo animal, so long as it remains alive. It still has intact molecules and cells, and many of its physiological processes continue to operate. But for the population biologist, an animal in a zoo has been stripped of most of what is interesting about it; it is like an isolated word out of context. Oh, yes, the animal may still have vestiges of behavior that once represented adaptations to its natural environment, but these cannot be understood without access to other, still wild, cousins.

If we are ever to appreciate the organization of natural communities, we will have to resist the tendency toward reductionism that pervades much of biology today. When Earth's natural habitats are destroyed, we will lose the vital information they contain, once and for all. This recurrent theme is not just the plea of another doomsday ecologist, but rather it is a matter concerning the very availability of facts and observations themselves.

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