

# Science Matters

- by David Suzuki



One of the barriers that was thought to separate humans from other species came crashing down last month when scientists announced that chimpanzee communities appear to have distinct cultures.

Culture is often considered to be an exclusively human phenomenon involving language, art, science and other complex behaviours. But this new study by Andrew Whiten, Jane Goodall and others offers overwhelming evidence that we are not alone in the ability to invent novel customs and pass them on to others socially.

The report, published in the journal Nature, is based on observations gathered from the world's seven most comprehensive chimpanzee field studies - together representing 151 years of observation. Researchers found that once ecological differences in behaviour had been taken into account, (sleeping in trees, for example, where predators are present and on the ground where they are not) there were still some 39 behaviours that varied between chimp communities.

In some societies, for example, chimps use rocks to crack open coconuts and eat the tasty meat inside. But other societies ignore the nuts altogether, even when both nuts and rocks are plentiful. Some chimp communities have also found an efficient way to harvest ants, waiting patiently for them to climb onto a stick, then using their hands to wipe the ants into their mouths. Meanwhile, other groups use their sticks to slowly pick the ants up few at a time. And these variations aren't limited to tool use. Grooming techniques and vocalizations are also different. Moreover, all of these variants appear to have been passed on socially - that is, through observation and imitation of one-another, not genetically.

This comprehensive study of non-human culture is thought to be the first of its kind, not just for chimps, but for any species. While individual behaviours such as the call of songbirds vary between populations, this is the first time a number of distinct behaviours have been analysed that together seem to add up to what we define as culture. The next question is whether other species also belong to the culture club. The odds are they do, especially all of our close relatives such as gorillas and orangutans, but also whales and dolphins, and perhaps many more species too. The fact that after decades of in-depth field studies, we are only now able to decisively point out cultural differences shows how complex animal societies are and that we are just beginning to learn about them.

Of course, some scientists still refuse to accept that differences in behaviour, such as the way ants are gathered, could be signs of culture. Instead, they argue that the behaviours are adopted as individual chimps learn the behaviours by themselves, rather than from one-another. Still others insist that culture must include more complex behaviours such as language.

Granted, cultural variants such as nut cracking are hardly comparable to composing a Beethoven sonata, building the pyramids, or walking on the moon, but they certainly exhibit the beginnings of culture that have ultimately led to these remarkable human achievements. Chimpanzees are our closest living relatives, offering invaluable clues to our own evolutionary history. Understanding how chimp culture develops is not just an important step towards understanding chimpanzees, but to understanding ourselves as well.

Unfortunately, chimpanzees are threatened from poaching and habitat loss throughout Africa. Sadly, with this new study we now know that the loss of a chimpanzee community means not only the loss of the animals themselves, but also the death of a culture and the loss of another connection to our past.

# POWER plans tree-planting project

P.O.W.E.R. (Protect Our Water and Environmental Resources), the group that successfully fought the Acton dump, has embarked on an ambitious project for the Millennium. They will seek funding from the federal government EcoAction 2000 Fund to do a huge, tree-plant in Halton Hills.

President, Barbara Halsall, speaking on behalf of the group, said, "These special landmarks in our lives such as Centennial Year or the Millennium are a time to stand back and think of what significant initiatives we can take that will leave a true legacy. P.O.W.E.R. can think of nothing better than to improve the environment for our citizens and for wildlife."

Only native species will be used and hopefully trees from heritage seeds that are acclimatized to this area. Plans are to match the species to the site conditions. Building on work begun by the Town Environmental Advisory committee (TEAC), and Halton Region, P.O.W.E.R. will use Geographic Information System (GIS) technology to identify

significant woodlots. Landowners will have the opportunity to enlarge their woodlots with free labour. As the trees grow between existing woodlots these will form important corridors for birds and animals.

Discussions have already been held with the Town of Halton Hills on the possibility of planting on town property. The ravine that borders the Georgetown South Park is a prime example. Halton Region Conservation Authority will give guidance on what is appropriate for that site.

The group has contacted schools in Halton Hills so that a large number of students can be involved. Awareness about climate change, habitat, biodiversity and the interdependence of systems are all sure to be raised. Schools have expressed interest but are waiting for more details. An educational committee is developing a plan that would tie the tree planting to the required curriculum. Naturalizing a small corner of schoolyards is one of the possibilities for younger students.

POWER will be seeking several kinds of support. Landowners who want to expand woodlots, volunteers with expertise in biology, willing volunteers with no expertise, monetary donations or gifts in kind from

individuals and businesses are all welcome.

Halsall concluded by saying that even if no federal funding was available, P.O.W.E.R. was still committed to planting trees in Halton Hills.

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