

“The CDZ model could guide future efforts to explain the relationship between what we see and what we do.” see page 167

of conducting genetic-testing enquiries in Colombia, which has the largest kindred in the world with familial Alzheimer's disease, indicates that individual resilience may vary greatly. Justifying relaxation of recommendations for vigilance on the basis of findings “that most people are remarkably resilient in the face of traumatic genetic test results” gives short shrift to those who are not.

When we asked a 24-year-old man whose mother harbours the highly penetrant presenilin mutation what he would do if he tested positive for the gene, he indicated that he would shoot himself in the head. Although he would probably have another 24 dementia-free years ahead of him, because the average age of disease onset in this community is 48 and variation around the mean is relatively small, the eventuality of a disease many years in the future pervaded his thinking.

Seeking predictive genetic testing can be a risky behaviour, and an individual's likely response to genetic risk is hard to foretell. Functional magnetic resonance imaging activity patterns may be able to define people who are more comfortable with risk, and genetic polymorphisms seem to contribute to risk-taking behaviour. Defining the scientific basis for how individuals handle volatile genetic information may help guide our decisions about the best setting for delivering predictive-testing news.

At what point does genetic destiny overtake the hope of beating the odds? In the Colombian families, an affected parent already sets the risk of disease at 50%, a level that in our experience creates significant anxiety but is tolerable.

Genetic testing, whether it offers a stick of dynamite or a stark warning to which we can adapt, must be backed up by reliable, accessible, up-to-date information. For example, the completion of phase III clinical trials can radically alter a bleak

message detected in the genome.

Kenneth S. Kosik Neuroscience Research Institute, University of California–Santa Barbara, Santa Barbara, California 93106-5060, USA
Francisco Lopera Grupo de Neurociencias de Antioquia, Universidad de Antioquia, Medellin, Colombia

Action needed to prevent extinctions caused by disease

SIR — Your News in Brief item ‘Cancer forces Tasmanian devil onto endangered list’ highlights the plight of this carnivorous marsupial (*Sarcophilus harrisii*), driven towards extinction by devil facial-tumour disease, which is contagious (*Nature* **453**, 441; 2008). The animal will soon also be uplisted by the 2008 IUCN Red List from its category of Least Concern to Endangered.

Emerging disease has also had a sudden impact on the western gorilla (*Gorilla gorilla*), uplisted in 2007 from Endangered to Critically Endangered, primarily as a result of mortality (more than 90% in some remote areas) induced by Ebola virus (*Nature* **449**, 127; 2007). Disease has caused a 33% decline in the gorilla population over 13–14 years and a 64% decline over 11 years in the devil population, and is set to continue. Such rapid, range-wide population crashes have also been documented in formerly widespread and common amphibian species affected by the pathogenic chytrid fungus (*Nature* **439**, 161–167; 2006).

The multimillion-dollar Save the Tasmanian Devil programme was initiated by Tasmania's Department of Primary Industries and Water in 2003. By contrast, nascent efforts to vaccinate wild gorilla populations with newly developed vaccines against Ebola virus are meeting with resistance from some members of the conservation community, who fear negative impacts during the vaccine-testing process.

The lesson to be learned from each of these diseases is that, although aggressive management actions, such as vaccination, may negatively affect a handful of individuals, they are vital if we are to save entire species.

Michael Hoffmann IUCN/SSC-CI/CABS Biodiversity Assessment Unit, c/o Conservation International, 2011 Crystal Drive, Ste 500, Arlington, Virginia 22202, USA
Clare E. Hawkins Threatened Species Section, Department of Primary Industries and Water, GPO Box 44, Hobart, and School of Zoology, University of Tasmania, Private Bag 5, Hobart, Tasmania 7001, Australia
Peter D. Walsh Max Planck Institute for Evolutionary Anthropology, Deutscher Platz 6, 04103 Leipzig, Germany

Cuddly animals don't persuade poor people to back conservation

SIR — In your Editorial ‘Two symbols, one solution’ (*Nature* **453**, 427; 2008) on symbols used to publicize the challenges of global warming, you caution against focusing on animals rather than people. But symbols can be powerful — so perhaps what we need instead is to identify a new set to serve the interests of environmental conservation.

The appeal of animals and idyllic forests is not universal. Criticizing this Western imagery, which seems to rate animals more highly than people, has become a rallying cry for local leaders the world over. It tarnishes conservation as a ‘new colonialism’. For example, a candidate for the governorship of East Kalimantan (Indonesian Borneo) recently declared that people should take precedence over orangutans (*Pongo pygmaeus*) — a politically pragmatic opinion that is unlikely to change soon in a country where recent figures indicated that 52.4% of the people live on less than US\$2 per day.

Here in Indonesia, iconic images show the noble fight

against poverty. Again, wild animals are largely irrelevant. Local community members on one of our orangutan conservation programmes were puzzled as to why we didn't help them first — “for we are the *orang utan*” (‘forest people’).

People in developing countries are seldom against conservation itself, although they may resent the conservation imposed on them. The hard slog of putting conservation into practice — economic planning, land-use allocation, calculation of environmental services, policies, sustainable financing and law enforcement — must be translated into stories and symbols that translate across cultures so that they can be better understood.

The dollar sign, for example, could symbolize opportunity fees that the wealthy would be prepared to pay to implement their own brand of conservation. A ballot paper could signal that conservation is subject to the same democratic checks and balances that we require in other societal choices. Such abstract, process-based ideas are less photogenic than cuddly animals, but they could potentially be key to reducing loss of tropical forests and thereby saving orangutans and other threatened species.

Erik Meijaard The Nature Conservancy Indonesia Forest Program and the Orangutan Conservation Services Program, Markoni, 76112, Balikpapan, East Kalimantan, Indonesia
Douglas Sheil Center for International Forestry Research, PO Box 6596 JKPWB, Jakarta 10065, Indonesia, and Institute of Tropical Forest Conservation, PO Box 44, Kabale, Uganda

Correction

In J. M. Swanson and N. D. Volkow's Correspondence (*Nature* **453**, 586; 2008), consumption estimates of stimulant drugs by country in 1995–2006 were wrongly attributed to the World Health Organization. These data were collected for the United Nations by the International Narcotics Control Board, and were taken from the published annual reports.