

## Japan's whaling

From Vassili Papastavrou, *International Fund for Animal Welfare*

If Japan is indeed going to get real over whale research (5 April, p 5), it needs to consider the implications on its activities in the North Pacific of the landmark ruling by the International Court of Justice (ICJ) against its "scientific whaling" in the Antarctic.

Paragraph 246 of the ICJ judgment states: "It is to be expected that Japan will take account of the reasoning and conclusions contained in this judgment as it evaluates the possibility of granting any future permits."

A panel convened by the International Whaling Commission's scientific committee made the same points about the scientific value of Japan's whaling in the North Pacific as those contained in the ICJ judgment of the Antarctic catch. Having indicated that it will reject the ICJ judgment in the Antarctic, Japan shouldn't issue a permit for the upcoming summer whaling season in the North Pacific.

Bristol, UK

## Scientific exclusion

From David Myers

In your leader, you correctly decry the lack of recognition afforded to female scientists, and you mention Rosalind Franklin, Lise Meitner, Emmy Noether and Gerty Cori (5 April, p 5). It is perhaps worth pointing out that your examples had two hurdles to overcome. Not only were they women, but all four were Jewish. *Commugny, Switzerland*

From Guy Cox

The downplaying of women's part in scientific discoveries is real and needs to be rectified. But gender bias isn't the only one operating.

The 2003 Nobel prize in chemistry was awarded for the

discovery of "porins" – protein channels that transport molecules through cell membranes. It went to the Americans Peter Agre for aquaporins, or water channels, and Roderick MacKinnon for potassium channels. But aquaporins were first described in 1986 by Gheorghe Benga, in what was then communist Romania.



There is no doubt that Agre told us much more about aquaporins than Benga did, but I can't believe Benga would have been excluded from the award had he been working in a Western nation.

Sydney, Australia

## Age of reason

From Joshua Schwieso

I enjoyed Alex Pentland's article on the death of individuality (5 April, p 30), but his grasp of the history of ideas is faulty. He asserts that before the 1700s, Westerners saw truth as coming from God and king, and that only after then did "the idea that humans were individuals with the freedom of rational choice" start to become acceptable. This is wrong.

Take the following, from Nicholas of Cusa's *On God as Not-Other*, dating from around 1462: "I shall speak and converse with you on the following condition: viz., that unless you are compelled by reason, you will reject as unimportant everything you will hear from me."

Earlier still, Thomas Aquinas, in the 1260s, saw human reason as

vital not just to philosophy and science but also to theology.

Reason wasn't somehow discovered by early modern Europe – the medieval and the classical world already appreciated its importance. *Spaxton, Somerset, UK*

## Climate threat

From Lucian McLellan

Fred Pearce's review of *Windfall* by McKenzie Funk presents us with selfish businesses looking forward to climate change so long as they can make a profit out of it (29 March, p 52). These companies must be thinking of the story of the two explorers on the veldt being charged by a lion. One looks with derision at the other, who is hurriedly putting on running shoes, scoffing that he hasn't a chance in hell of outrunning a lion. "I only need to run faster than you," the runner coolly replies.

These businesses need to see that a collapsing ecosystem isn't a single lion, but a surrounding circle of them. The urge to remain the wealthiest in a doomed species will bring death by pride. *Bristol, UK*

## Fusion facility

From Colin Bruce

Clive Semmens's fear that a deuterium-tritium fusion reactor can't produce enough tritium for its own needs is unjustified (15 March, p 32).

Lithium comprises two isotopes. Lithium-6 has an enormous cross-section to capture slow neutrons, fissioning to tritium with a large energy yield. Even better, lithium-7 absorbs fast neutrons, fissioning to tritium plus an extra slow neutron for the lithium-6. This neutron-multiplying ability of lithium was discovered in 1954, when the Castle Bravo H-bomb test on Bikini Atoll produced twice the expected yield, with

consequences for the islanders of nearby Rongelap among others.

By juggling the ratio of the two lithium isotopes, a fusion reactor can be made that produces either exactly enough tritium to keep itself going, or even a surplus if desired. This is almost spookily fortunate: lithium is the only light element capable of fission. Liquid lithium has a large heat capacity, low melting point, high boiling point and a low vapour pressure. It conducts, so can be pumped electromagnetically. It is light enough to act as a moderator, slowing rebounding neutrons. It is the perfect fluid-come-shield for a fusion reactor.

Physicists sometimes grumble that the universe seems designed to make fusion hard. These improbably helpful properties of lithium are more like a hint: if you can't do fusion when it's this easy, frankly you don't deserve it!

Oxford, UK

## Valdez legacy

From Arndt von Hippel

In his assessment of the impact of the Exxon Valdez oil spill 25 years on, John Wiens remarks that "fisheries closed, people's lives were disrupted, and so lawyers went to work" (29 March, p 26). Of this, only the part about lawyers is accurate. For Exxon fought endless costly legal battles to deny every claim rather than pay adequate compensation for any fisheries closed and livelihoods destroyed. Many fisher families truly were destroyed (not merely disrupted). And the historically huge, healthy, financially important Prince William herring fishery didn't resume after the spill. *Anchorage, Alaska, US*

## Lessons in honesty

From Danny Colyer

Your leader on scientific fraud (29 March, p 5), particularly the