

- 1) Aquatic life embedded in tree resin  
Surprisingly, one can find amber with aquatic life preserved inside. These scientists looked at a modern swamp forest too to find out more about how this could happen.  
<http://www.pnas.org/cgi/content/abstract/0707949104v1?etoc>  
  
Possible very tangential link (both involve trapping...) to this article if you want to beef it up – microbes trapped in ice. <http://www.pnas.org/cgi/content/abstract/0708183104v1?etoc>
- 2) Speedy quicksilver  
Changes in amounts of mercury deposited from the atmosphere mercury rates are swiftly reflected in the amounts of mercury in fish. Implications for legislation on pollution/air quality? Avoid fish downwind of power plants, especially if you're pregnant?  
<http://www.pnas.org/cgi/content/extract/104/42/16394?etoc>  
<http://www.pnas.org/cgi/content/full/104/42/16586>
- 3) Wimpy ancestors?  
We seem to respond much faster to changing images with animals or humans present, rather than to ones with inanimate objects – are we hardwired to respond to threats posed to our ancestors? The reviewer of this study cites someone who thinks snakes may pose a special case of this because “they were the only source of predatory pressure at two critical evolutionary junctures.”  
<http://www.pnas.org/cgi/content/extract/104/42/16396?etoc>  
<http://www.pnas.org/cgi/content/full/104/42/16598>
- 4) A recipe for green super rice?  
We still need to improve rice yields, to ensure its cultivation remains sustainable. Here's how.  
<http://www.pnas.org/cgi/content/abstract/104/42/16402?etoc>  
<http://www.pnas.org/cgi/content/full/104/42/16391>
- 5) CSI: Cuzco  
Using DNA sequencing and stable isotope analysis to gain an insight into Inca ritual killing from far beyond the grave.  
<http://www.pnas.org/cgi/content/abstract/104/42/16456?etoc>
- 6) Speak no evil  
Chimps modify their screams based on the audience present, displaying a sophisticated understanding of the relationships between other audience members  
<http://www.pnas.org/cgi/content/abstract/0706741104v1?etoc>
- 7) What's the goss?  
“Thus, it is evident that gossip has a strong manipulative potential”: seems we alter our behaviour based on gossip about info, even if we have access to the original information.  
Link to article 6)?  
<http://www.pnas.org/cgi/content/abstract/0704598104v1?etoc>  
<http://sciencenow.sciencemag.org/cgi/content/full/2007/1015/2?etoc>

8) Wall-to-wall tungsten

The problems of finding a suitable material for the walls of ITER, the fusion reactor at Cadarache

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524124>

9) Cloud computing

Yes, that's right –not “grid”, but cloud – worth having an investigate? Does anyone at Imperial use this? Should we be?

<http://www.nature.com/news/2007/071024/full/449963a.html>

Potential link to the LHC@home project and galaxy zoo?

<http://galaxyzoo.org/>

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524161>

10) Albatrosses and Levy flights

Levy flights are hot stuff/a bandwagon in statistical mechanics, as they're scale-free, and often observed in physical and chemical systems, and have in the past been claimed to be observed in behaviour patterns of real animals – from bees to albatrosses. This lot dispute this.

<http://www.nature.com/nature/journal/v449/n7165/abs/nature06199.html>

11) A knotty problem

Has already got quite some coverage, but might still be worth looking at – the physics of self-tying knots, or how long things get tangled.

<http://www.pnas.org/cgi/reprint/0708150104v1?etoc>

<http://www.pnas.org/cgi/content/figonly/104/42/16432>

12) Hunter & the hunted

Using “digital holographic microscopy” (?) to examine the behaviour of hunter and prey dinoflagellates

<http://www.pnas.org/cgi/content/abstract/0704658104v1?etoc>

13) Shishas

Apparently we're using them more, but little is known about their effect. Not much info here – you'll have to dig more out yourself.

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524177>

14) Bad breath, but good heart

The mechanism which explains why eating garlic may be good for your heart? Other veg too?

<http://www.pnas.org/cgi/content/abstract/0705710104v1?etoc>

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524490>

15) Spinal arthritis in cane toads

Can only be a good thing, surely? Hope they're not proposing they take a leaf out of Toad of Toad Hall's book?

<http://www.pnas.org/cgi/content/abstract/0705057104v1?etoc>

16) Causes of cataracts

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524227>

17) Colour perception

Seems we may have 6 ways of perceiving colour, rather than the conventional 3.

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524248>

18) Honey

Can be used to heal wounds apparently, and has been for centuries

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524288>

19) Hot-headed devices

An EEG powered by the body's heat

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524298>

20) Postman Pat

How to tackle the travelling salesman problem computationally

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524352>

21) Romance in unlikely settings:

Medical romance fiction and "the apparent inevitability of uncontrolled passions in the context of emergency medicine". Check out the short Lancet article too.

<http://www.alphagalileo.org/index.cfm?fuseaction=readrelease&releaseid=524490>

<http://multimedia.thelancet.com/pdf/press/Medrom.pdf>

22) Neophiles

Are we slaves to novelty?

<http://www.pnas.org/cgi/content/abstract/0704916104v1?etoc>

23)

24) IC Press release:

Fight against HIV needs local scientists, say researchers

Scientists from developing countries are vitally important in the fight against HIV and they must be given the proper resources to conduct their work, according to a new commentary published today in the journal Nature Immunology.

Researchers from Imperial College London, who are evaluating multiple candidate vaccines designed to prevent HIV, argue that Western governments and funding agencies must commit to sharing technology and expertise with those in the developing world on a long-term basis.

The researchers have been working with local scientists in Uganda and other sites in the developing world to enable large-scale international trials of potential vaccines against HIV. They argue that their

work shows it is both feasible and desirable to carry out high-quality trials in developing countries, but that more state-of-the-art laboratories are needed in the developing world to support such trials and enable the roll-out of antiretroviral drugs.

The authors write that people in countries like Uganda wish to take ownership of, or at the very least be equal partners in, efforts to develop treatments for HIV to benefit their population.

"Old fashioned 'parachute science' - where scientists from the developed world flew in, bled a few patients, and immediately returned to their country of origin with their samples, are no longer required or acceptable. In-house development and research is an effective and efficient way forward," said Professor Frances Gotch, one of the commentary's authors from the Division of Investigative Science at Imperial College.

Uganda is a relative success story in relation to other parts of sub-Saharan Africa in terms of how it has dealt with the spread of HIV, thanks to a National AIDS Control programme, which was established early in the epidemic. Nonetheless, one million people in the country are living with HIV and contributions from the West have been and continue to be crucial in Uganda and elsewhere, say the authors.

Collaborations across sub-Saharan Africa have so far enabled the creation of network of state-of-the-art laboratories, staffed by local scientists and technologists. Cooperation between the Ugandan government and international bodies has enabled the development of research which has led to improved HIV screening and counselling; free mosquito nets and water purification to prevent opportunistic infections; and free testing and treatment for basic infections of danger to those living with AIDS.

"Western governments and funding agencies need to continue to build capacity and train future generations of scientists and doctors on-site in new technologies," added Professor Gotch. "Countries need resources to maintain and sustain not only the facilities and equipment, but also staff in these countries who are trained and motivated. It is most important to give countries the capacity to train the trainers in their country so that knowledge can be shared and developed there."

The commentary is part of the Council of Science Editors' global theme issue on poverty and human development, launched today by the National Institutes of Health to coincide with the publication of related research by more than 230 journals worldwide.

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Notes to editors:

1. "Science, medicine and research in the developing world: a perspective" Nature Immunology, 22 October 2007 (Advanced Online Publication - can be viewed at <http://www.nature.com/ni/journal/vaop/ncurrent/full/ni1531.html>).

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