

## NEWS

# Harvard probe kept under wraps

Researchers call for the release of findings of the Marc Hauser misconduct investigation.

When news broke last week that famed Harvard University evolutionary psychologist Marc Hauser had been investigated for scientific misconduct, it was no surprise to many in the field. Rumours had been flying for three years, ever since university officials arrived to snatch computers from Hauser's laboratory at the start of the inquiry. By the time Harvard completed its investigation in January, the gossip had become standard cocktail-hour fare at conferences. Now, after a *Boston Globe* story threw a sudden spotlight on the investigation, some researchers are voicing frustration with Harvard's refusal to release the details of its findings.

Hauser studies the evolution of key human characteristics, such as morality, language and mathematical ability, by tracing the origins of these traits in non-human primates. A popular professor and mentor, his research output has been diverse and prodigious, generating about one peer-reviewed paper per month for the past four years and forming the basis for popular articles, books and media appearances.

Now that allegations of misconduct have surfaced, those working in related areas are adamant that a full account of any problems with Hauser's published work is needed. "Scientists working in these areas, some of whom would like to build on Marc's results, need to know exactly which may have been the results of misconduct," says Robert Seyfarth, an evolutionary psychologist at the University of Pennsylvania in Philadelphia, and one of Hauser's graduate-school advisers. "Keeping things secret simply fuels rumours."

Some even worry that without additional details, the field as a whole could become tainted. "It is disastrous," says primatologist Frans de Waal of Emory University in Atlanta, Georgia. "This is a very small field — if one prominent person is under suspicion, then everyone comes a little bit under suspicion."

Researchers close to those involved say that the Harvard investigation, launched after three of Hauser's graduate students became troubled by how he interpreted his data and reported their concerns to the university, has discovered eight instances of misconduct. Hauser, who has taken a one-year period of leave from Harvard, has not responded to requests for comment. Harvard will not discuss its investigation, but says the results have been reported to the two federal

**"Keeping things secret simply fuels rumours."**



Evolutionary psychologist Marc Hauser's research on primate cognition has been criticized.

agencies that provide funding for Hauser's work. Both the National Science Foundation and the Office of Research Integrity at the National Institutes of Health, have declined to comment on the matter, but the practice in such cases is that findings are made public only if government officials conclude that a researcher has acted improperly.

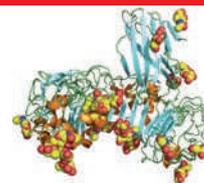
Harvard has also acknowledged that three of Hauser's publications have been singled out for correction. None is among his most influential, judging from citation data. One, a 2002 paper in *Cognition*<sup>1</sup>, is being retracted, says the journal's editor, Gerry Altmann of the University of York, UK. In the retraction letter, Hauser takes responsibility for the error, but fails to describe precisely what was wrong with the paper, which reports that cotton-top tamarins — diminutive New World monkeys with punk-rock hair — can learn to distinguish between different patterns of vowels and consonants, just as human infants do.

Meanwhile, a 2007 paper in the *Proceedings*

of the *Royal Society*<sup>2</sup>, which demonstrates that rhesus monkeys living on an island off Puerto Rico can correctly read specific human gestures, has been corrected. In an addendum<sup>3</sup> to the paper, Hauser and his co-authors write that field notes and video records from the study were found to be "incomplete", leading two of the authors, Hauser and Justin Wood, now at the University of Southern California in Los Angeles, to return to the island to repeat the experiments. The new data match the previously reported results, they write.

The status of the third paper<sup>4</sup>, published in *Science* in 2007, is still up in the air, says Ginger Pinholster, a spokeswoman for the journal's publisher, the American Association for the Advancement of Science in Washington DC. On 27 June, Wood wrote to the journal to report that data for this paper were also missing. Wood and Hauser have submitted new data that are now under review, but the editorial team is uncomfortable about making a decision without knowing the full results of the Harvard investigation, Pinholster says.

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CENTENO-SCHULTZ CLINIC

Hauser had his share of critics even before the investigation began. In 1995, a paper from Hauser's group in the *Proceedings of the National Academy of Sciences*<sup>5</sup> caught the eye of evolutionary psychologist Gordon Gallup of the State University of New York at Albany. The paper asserted that tamarins can recognize their reflection in a mirror rather than assuming that the reflection is another monkey. Gallup was intrigued — his earlier work<sup>6</sup> had indicated that although chimpanzees could recognize themselves in a mirror, monkeys could not. He asked to see video footage of the experiment.

But when Gallup reviewed the tapes, he says he found no evidence of self-recognition. He published his concerns<sup>7</sup> in *Animal Behaviour* in 1997. Hauser published a rebuttal in the same issue<sup>8</sup>, but four years later, in a paper in the *American Journal of Primatology*<sup>9</sup>, reported that he had been unable to reproduce the results of the earlier paper.

That does not necessarily mean the original claim was wrong, says Mark Liberman, a linguist at the University of Pennsylvania. Subtle variations between experiments can lead to contradictory results without clearly indicating that one result is wrong. But Gallup thinks that the paper should have been withdrawn or corrected, especially given his experience with the raw data. "Unfortunately, I think most people are unaware of the published failure to replicate," he says, noting that the original 1995 paper has been cited 40 times, whereas the 2001 paper has been cited only 10 times.

De Waal worries that the field will face more problems as pressure builds for young professors to publish in high-profile journals. "Now scientists facing tenure are asked to produce something new and exciting that can be summed up in three pages," he says. "It's craziness, because actually the study of animal behaviour is painstaking, slow, laborious, and rarely leads to unambiguous results." ■

Heidi Ledford

1. Hauser, M. D. *et al. Cognition* **86**, B15–B22 (2002).
2. Hauser, M. D., Glynn, D. & Wood, J. *Proc. R. Soc. B* **274**, 1913–1918 (2007).
3. Hauser, M. D. & Wood, J. N. *Proc. R. Soc. B* doi:10.1098/rspb.2010.1441 (2010).
4. Wood, J. N. *et al. Science* **317**, 1402–1405 (2007).
5. Hauser, M. D. *et al. Proc. Natl Acad. Sci. USA* **92**, 10811–10814 (1995).
6. Gallup, G. G. *Science* **167**, 86–87 (1970).
7. Anderson, J. R. & Gallup, G. G. *Anim. Behav.* **54**, 1563–1567 (1997).
8. Hauser, M. D. & Kralik, J. *Anim. Behav.* **54**, 1568–1571 (1997).
9. Hauser, M. D. *et al. Am. J. Primatol.* **53**, 131–137 (2001).

## FDA challenges stem-cell clinic

How should clinics that treat patients with injections of their own stem cells be regulated? That question is about to test the jurisdiction of the US Food and Drug Administration (FDA) in a landmark legal battle — and is fuelling a war of words between doctors marketing such therapies and academics who urge caution.

The FDA asserted its authority on 6 August, when it requested a federal injunction from the US District Court of the District of Columbia to prevent stem-cell clinic Regenerative Sciences in Broomfield, Colorado, from preparing its treatments. The company isolates, cultures and processes adult stem cells from a patient's bone marrow or synovial fluid. Doctors then inject the cells to treat fractures, torn tendons and other ailments. The clinic charges patients US\$7,000–9,000, carries out about 20 procedures each month, and says it will fight the FDA's injunction. Unlike conventional bone-marrow transplants of blood-forming stem cells, Regenerative Sciences' procedure relies on mesenchymal stem cells that can potentially transform into bone, cartilage or fat.

In July 2008, the FDA told Regenerative Sciences that its treatments are drugs according to the Federal Food, Drug and Cosmetic Act, and biological products under the Public Health Service Act. But the company did not apply for FDA approval and continued to offer the treatment. Now the agency says that the company is not following good manufacturing practice, and that the treatment's safety and efficacy is unproven.

But Christopher Centeno, Regenerative Sciences' medical director, argues that as the treatment uses a patient's own stem cells, it is a medical procedure akin to *in vitro* fertilization, and therefore none of the FDA's business. He adds that his treatment has a much better safety record than conventional surgery (C. J. Centeno *et al. Curr. Stem Cell Res. Ther.* **5**, 81–93; 2010) and that animal (see [go.nature.com/PiFFyF](http://go.nature.com/PiFFyF)) and imaging (C. J. Centeno *et al. Pain Physician* **11**, 343–353; 2008) studies have proved it effective.

The FDA's demand for scientific evidence from clinical trials "is a valid position. But it is not the only position," Centeno told *Nature*. He says that it is sufficient to follow the guidelines of the International Cellular

Medicine Society (ICMS), based in Salem, Oregon, an association of 1,100 physicians and patients that he co-founded and of which he is medical director.

Centeno and his supporters say that the FDA's request for an injunction is another blow for stem-cell clinics in their David-and-Goliath struggle with an industry-led alliance that wants to put a stranglehold on stem-cell therapies and restrict individuals' use of their own cells. In an open letter on 30 July, ICMS executive director David Audley accused the International Society



Christopher Centeno, medical director of Regenerative Sciences.

for Stem Cell Research (ISSCR), based in Deerfield, Illinois, and including some 3,500 stem-cell researchers, of setting out to close their clinics. Motivated by the interests of a pharmaceutical industry unlikely to profit from the treatments, Audley says, the society wants to "change the laws in all civilized countries to outlaw these therapies." When questioned by *Nature*, however, Audley admitted he had no hard evidence for these assertions.

ISSCR president Elaine Fuchs of the Rockefeller University in New York denies the claims. Although the society gets 12% of its funding from industry, its aim is to "motivate basic science" and not to support industrial interests, she says.

But the ISSCR is worried about unproven stem-cell treatments. In June, it established a service that, on request, will judge whether a treatment or clinic is safe and effective (see *Nature* 466, 7–8; 2010). Douglas Sipp of the RIKEN Centre for Developmental Biology in Kobe, Japan, and a member of the ISSCR's Task Force on Unproven Stem Cell Treatments, says that "the consequences could be severe" if Regenerative Sciences wins the US District Court case, likely to begin next summer. "Companies would likely feel empowered to ignore requirements for demonstrable safety and efficacy of autologous medicinal products, creating an 'anything goes' atmosphere," he says. "It would be, as they say, a bad thing."

But Centeno senses a landmark victory. "If we win, the entire regulatory structure for autologous cell processing, with or without culture, will be rewritten such that any physician using good practices and treating patients responsibly can use stem cells as part of his or her medical practice," he says. ■

David Cyranoski