

# Biometrics was no match for hair-raising tricks

People have been fooling the latest thing in security for a very long time.

*Sir*— Although biometric technology is believed to be a product of the hi-tech era, it is not, in fact, our generation's invention. People were using biometric technology long before the word 'biometric' was coined (see *Nature* **418**, 583; 2002; and **420**, 15; 2002). Not only that, but attempts to fool it were as common in ancient times as they are today.

The oldest written testimony of identity theft we can find dates back to biblical times, when Jacob fraudulently used the identity of his twin brother Esau to benefit from their father's blessing. *Genesis* describes a combination of hand scan and voice recognition that Isaac used to attempt to verify his son's identity, without knowing that the smooth-skinned Jacob had wrapped his hands in kidskin: "And Jacob

went near unto Isaac his father; and he felt him, and said, 'The voice is Jacob's voice, but the hands are the hands of Esau'. And he recognized him not, because his hands were hairy, as his brother Esau's hands." The false acceptance which resulted from this very inaccurate biometric test had historical consequences of unmatched proportions.

In Greek mythology, too, we are likely to find surprises. A primitive tactile sensor used by the one-eyed Cyclops after Odysseus and colleagues had destroyed his monocular face-recognition system — and which they evaded by hiding under his sheep — was actually the first biometric lock, operated more than two millennia before James Bond conquered the screen with his hi-tech gadgets.

Turning the dusty pages of the classics,

we discover a wide spectrum of biometric technologies, from voice recognition — triumphantly deceived by Dante's Gianni Schicchi, who impersonated a dead man to change a will in his own favour — to the unbeatable feature-matching face-recognition algorithm implemented by the fairy-tale heroine Little Red Riding Hood, who was unconvinced by a wolf disguised as her grandmother.

Scientists would be envious to find out that many state-of-the-art approaches in biometrics are merely a rediscovery: to quote *Ecclesiastes*, "nothing is new under the sun".

**Michael M. Bronstein,  
Alexander M. Bronstein**

*Department of Electrical Engineering, Technion - Israel Institute of Technology, Haifa 32000, Israel*

## Scientific misconduct: the state's role has limits

*Sir*— The Association of American Medical Colleges (AAMC) has long fostered research integrity, developed ethical codes for scientific societies, promulgated guidelines for inquiries into allegations of scientific misconduct, issued policies and recommendations for dealing with financial conflicts of interest in clinical research, and, most recently, collaborated with the Office of Research Integrity (ORI) in educational efforts and workshops on the responsible conduct of research. The AAMC has long recognized that misconduct breaches the social contract underpinning academic science and undermines a scientific establishment that sets the standard of international excellence. Contrary to your assertion, the AAMC strongly supports ethics training for graduate students and postdoctoral research fellows.

In his annual address to academic leaders and the public, the AAMC president, Jordan Cohen, stated "either we are trustworthy and deserve the privilege of self-regulation, or we are suspect and warrant the close scrutiny of government." We are proud of our record, which speaks for itself.

Your Opinion article (*Nature* **420**, 253; 2002) mischaracterizes the opposition expressed by the AAMC and the Federation of American Societies for Experimental Biology (FASEB) to the ORI's proposed data-collection instrument. Our objections focus on two critical elements: first, the likelihood that the survey would result in unusable, invalid and easily misinterpreted 'data' based on subjective criteria and

imprecise measures. One example of this is mentioned in your editorial — asking for instances where a researcher observed a colleague "citing an article they had not read firsthand". Our second objection is to the ORI's inexplicable defiance of the settled federal definition of scientific misconduct, which can lead only to confusion.

The crux of the issue, which you fail to comprehend, is that the federal definition of 'scientific misconduct' is a marker for the proper role of government in overseeing the conduct of federally funded academic research. On this matter, the US scientific community has consistently spoken with a single voice in arguing that this role be circumscribed and focused on transgressions that are reasonably unambiguous and are unacceptable across all scientific and scholarly disciplines.

This unanimity does not imply, however, that the boundaries of unethical scientific and professional behaviour should be so circumscribed — quite the contrary. It is not the role of the federal government to define or prescribe those ethical boundaries. Rather, it is the obligation of academia and scientific societies, and it is to stimulate and assist our member institutions to meet that obligation that the AAMC has been so actively and demonstrably engaged for so long.

Perhaps *Nature* believes that science needs a federally sanctioned 'high church' as the final arbiter of scientific morals, ethics and integrity. The AAMC, and, we believe, all of US science, profoundly disagrees.

**David Korn**

*Senior Vice President, AAMC, 2450 North Street, Northwest Washington, DC 20037, USA*

## Scientific misconduct: ORI survey is flawed

*Sir*— The Federation of American Societies for Experimental Biology (FASEB) abhors misconduct in research and has repeatedly emphasized the need for clear, unambiguous and consistent definitions of misconduct. The accusations you make in Opinion (*Nature* **420**, 253; 2002) misrepresent our criticism of the US Office of Research Integrity's (ORI's) flawed survey questionnaire.

We do not object to data collection on misconduct. Institutions currently provide this information to the ORI on an annual basis. Our opinion is that the proposed ORI survey has serious deficiencies and will not produce useful data.

The ORI itself stated that previous attempts to measure misconduct were unsuccessful because they strayed from the federal misconduct definition. The issues of fabrication, falsification and plagiarism are too important to be confused with other questions, many of which involve legitimate differences of opinion. The survey's vague questions, such as asking respondents how many times they have observed colleagues "failing to cite references that contradict their current research" or "refusing to give peers reasonable access to unique research materials", will give a misleading impression of how research is done. Although it is easy to circle a number, there may be wide variation in the ethical status of the examples being reported by individuals. Simple summaries of complex issues will lump legitimate actions together