

Reporters Find Science Journals Harder to Trust

When the journal Science recently retracted two papers by the South Korean researcher Dr. Hwang Woo Suk, it officially confirmed what he had denied for months: Dr. Hwang had fabricated evidence that he had cloned human cells.

But the editors of Science were not alone in telling the world of Dr. Hwang's research. Newspapers, wire services and television networks had initially trumpeted the news, as they often do with information served up by the leading scientific journals.

Now news organizations say they are starting to look at the science journals a bit more skeptically. "My antennae are definitely up since this whole thing unfolded," said Rob Stein, a science reporter for The Washington Post. "I'm reading papers a lot more closely than I had in the past, just to sort of satisfy myself that any individual piece of research is valid. But we're still in sort of the same situation that the journal editors are, which is that if someone wants to completely fabricate data, it's hard to figure that out."

But other than heightened skepticism, not a lot has changed in how newspapers treat scientific journals. Indeed, newspaper editors openly acknowledge their dependence on them. At The Los Angeles Times, at least half of the science stories that run on the front page come directly from journals, said Ashley Dunn, the paper's science editor. Gideon Gil, the health and science editor for The Boston Globe, said that two of the three science stories that run on a typical day were from research that appeared in journals.

Beyond newspapers, papers from journals are routinely picked up by newsweeklies, network

news, talk radio and Web sites, reports nytimes.com.

"They are the way science is conducted, they're the way people share information, they're the best approximation of acceptance by know-



ledgeable people," said Laura Chang, science editor for The New York Times. "We do rely on them for the starting point of many of our stories, and that will not change."

There are limits to the vetting that science reporters, who are generally not scientists themselves, can do. Most journal articles have embargoes attached, giving reporters several days to call specialists in the field, check footnotes on an article and scrutinize the results.

"Scientific discoveries are more difficult because they often require in the generalist reporter a good deal of study, follow-up interviews and some guid-

ance on how to make sense of technical matters," said Roy Peter Clark, a senior scholar at the Poynter Institute, which studies journalism. "But I think the scandals do require both a new level of skepticism on the part of the reporter and also maybe some new protocols between scientists and journalists."

The Hwang case was not the first time journals had been duped: recently,



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the first time journals editors at The New England Journal of Medicine said they suspected two cancer papers they published contained fabricated data. In December, the same journal said that the authors of a 2000 study on the painkiller Vioxx had omitted the fact that several patients had had heart attacks while taking the drug in a trial. A study on the painkiller Celebrex that appeared in The Journal of the American Medical Association was discredited when it was discovered that the authors had submitted only six months of data, instead of the 12 months of data they had collected.

While the journals have a peer review process that is in part meant to filter out fallacious papers by checking research techniques and conclusions, perhaps the greatest difficulty for science reporters is trying to catch what journal editors have missed.

After hearing the news of Dr. Hwang's fabrications, Gil of The Globe said he immediately remembered his newspaper's coverage of the stem cell papers.

"We were blown away, in part because we had written those stories on Page 1," Gil said. "And when we wrote them, we called the leading experts in the world on all this embryonic stem cell stuff, who are here in Boston. And they were as hoodwinked as anybody else."

Despite the fraud cases, most of what the journals publish is basically credible, said David Perlman, the science editor of The San Francisco Chronicle. Among the most prestigious science journals that reporters consult regularly are Nature, Science, The New England Journal of Medicine and The Journal of the American Medical Association.

"I think they and we have been burned enough that they're making efforts," Perlman said. "They're being more careful now, and I think reporters are too. I definitely have more of a 'Hey, let's look more carefully' attitude now that I did 5 or 10 years ago."

Donald Kennedy, the editor of Science, said in a statement in December that the journal itself was not an investigative body. But when reporting on journal findings, most news outlets fail to caution that studies must be replicated to be truly authenticated.

"Beyond Hwang, the more fundamental issue is that journals do not and cannot guarantee the truth of what they publish," said Nicholas Wade, a science reporter for The New York Times. "Publication of a paper only means that, in the view of the referees who green-light it, it is interesting and not obviously false. In other words, all of the results in these journals are tentative."

Bird Flu Hits New Areas In Europe

The deadly H5N1 strain of the bird flu virus has reached three new European countries, officials have confirmed.

The virus has been

suspected elsewhere in Italy, the country's health minister says.

A specialist UK laboratory has identified the virus in dead swans found in northern Greece and

The H5N1 strain of bird flu has killed at least 80 people since early 2003, mostly in South-East Asia.

Seventeen migratory birds which had fallen ill

of Puglia, Calabria and Sicily. Two of them - swans that were found in the Sicilian town of Messina - tested positive for the H5N1 strain, the Italian health ministry confirmed.

Greek health officials have intensified precautions in areas near Thessaloniki, Greece's second-largest city, where three migratory swans tested positive for the H5N1 strain. Tests carried out in a UK laboratory also confirmed the deadly bird flu virus in wild swans found in the Bulgarian wetland region of Vidin, close to the Romanian border.

The UN's Food and Agriculture Organization warned this week that bird flu could already have arrived in countries neighboring Turkey,

where outbreaks have hit 26 of its 81 provinces.

The Rome-based agency said it is working with ornithologists at more than 20 sites in southern Europe where bird migration is under way. The infected swans found in Italy are believed to have been returning to Europe from Russia. Traps for wild birds are being set and farmers are being urged to be vigilant.

The area surrounding the lakes in northern Greece where the dead swans were found has already been sealed off. Restrictions have been imposed on the movement of commercial poultry and a ban on hunting is in place. The measures are expected to remain in force for at least three weeks.

Man in the Moon's Cataclysmic Birth Revealed

Shock waves from ancient lunar impacts may be responsible for creating the Earth's single most famous face - the "Man in the Moon".

People have long interpreted a series of dark patches on the Moon's surface as a human face but no one knew how they formed. Now, scientists appear to have solved the mystery by creating a topographical model of the Moon and mapping gravity signatures of rocks all the way to the core, writes newscientist.com.

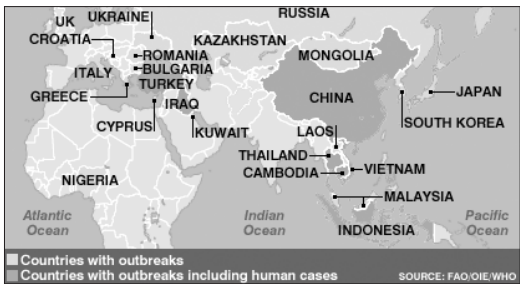


Their findings suggest that the impacts of ancient collisions on the far side of the Moon were so great they caused a corresponding bulge on the near side, and the Earth's gravitational pull further tugged at this bulge. Those colossal movements opened cracks in the crust and let magma from the lunar mantle flood onto the surface, at a time when the Moon was still geologically active. This solidified to form what we

what shows up on the gravity field model," explains Ralph von Frese, a geologist at Ohio State.

The impacts were huge enough to disrupt the Moon to its core and at the same time

Earth's gravity field moved mass preferentially to the nearside. Because this happened when the Moon was solidifying, the movements of mass produced a gravity anomaly that



The spread of bird flu has forced countries around the world to look at how they would tackle an outbreak.

found in wild swans in Bulgaria, reports or died were recovered from the Italian regions Sicily, and other cases are bbc.co.uk.

Color Vision Evolved to Spot Our Blushes

Color vision may have evolved in primates to help them pick up on changes in blood and oxygen concentrations beneath the skin's surface, giving access to emotional cues, a new analysis proposes.

Previously research has suggested that primates - the only mammals with the ability to see in color - evolved this facility to spot ripe fruits or nutritional leaves. The new analysis compared variations in skin color

change with the color sensitivities of primate vision cells. These cells, known as cones, sit in the retina of the eye and allow primates to discriminate color.

Charting the receptivity of these cells was no small task. "Basically, careful retinal neurophysiologists and psychophysicists spent untold numbers of hours measuring how sensitive each cone is to each wavelength of light," says Mark Changizi at Caltech in Pasadena, California, US.

Changizi, who led the new study, and his colleagues built on this previous research by analyzing how different primates' cone cells might pick up on shifting blood oxygen levels, which show through the skin.

The results of the analysis suggest that primate vision may have evolved to pick up on these physiological changes below the skin's surface. In other words, our eyes may have evolved partly to pick up on cues such as blushing, says newscientist.com.

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