Bible Code Bunkum

The 1997 best seller *The Bible Code* claimed that a host of encoded predictions of current events—such as letters spelling "Yitzhak Rabin" close to "assassination"—are hidden in the book of Genesis. The inspiration for the book came from a study published in a reputable journal, *Statistical Science*. Now that journal has come out with a new study showing that such codes exist only in the minds of believers.

In 1994, mathematician Eliyahu Rips of Hebrew University (HU) in Jerusalem and two colleagues reported finding statistically significant coincidences after scanning a Hebrew text of Genesis for meaningful sequences of equidistant letters (similar to example at right). They found that names of famous rabbis were located closer in the text to their own dates of birth and death than to those of other rabbis. The journal's editor, Robert Kass, wrote in a preface that the paper had "baffled" the referees and was therefore being presented as a "challenging puzzle." "We published the paper in the hope that someone would be motivated to devote substantial energy to figuring out what was going on," says Kass.

Princess Di's death as predicted by equidistant letter sequences in *Moby Dick*.

And someone has. Mathematician Brendan McKay of Australian National University in Canberra and three colleagues at HU say they have pegged the flaw in the original study as a lack of precision in specifying the names and dates being sought. For example, the list might specify "Robert," or it might allow a "Rob" or "Bobby" in the text also to mean Robert. The protocol was so flexible, the researchers found, that they could get significant results by looking for the famous rabbis in a Hebrew translation of *War and Peace*.

One of the co-authors of the original paper, physicist Doron Witztum, defends his group's work, saying the new paper uses "false and distorted data." In a posting at www.torahcodes.co.il, he says, "We intend to respond to their paper in detail."

According to Leon Gleser, *Statistical Science*'s current editor, the episode offers a cautionary tale. In the increasingly computer-intensive area of data-mining and statistical analysis, he says, "it's going to become harder and harder to check people's work."

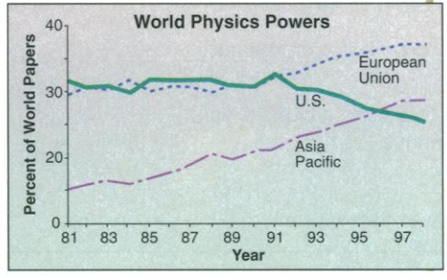
Lasker Winners

"America's Nobels," the annual awards—light on money but heavy in prestige—from the Albert and Mary Lasker Foundation, go this year to six biomedical researchers. They include neuroscientist Seymour Kety, 84, pioneer explorer into the biological roots of schizophrenia, who works at McLean Hospital in Belmont, Massachusetts.

The winners of the Basic Medical Research Award, for work on the architecture of ion-channel proteins, are physiology professors Clay M. Armstrong of the University of Pennsylvania, Philadelphia, and Bertil Hille of the University of Washington, Seattle; and neurobiologist Roderick MacKinnon of The Rockefeller University in New York City. The Clinical Medical Research Award goes to David W. Cushman and Miguel A. Ondetti, two Bristol-Myers Squibb researchers who designed ACE inhibitors, cardiovascular drugs. The $10,000 awards will be presented in New York City on 1 October.

Physics Paper Mills

Both the European Union (EU) and Pacific Rim nations now surpass the United States in production of physics papers, according to the latest issue of *ScienceWatch*, published by the Institute for Scientific Information (ISI) in Philadelphia. Similarly, in chemistry Asia climbed to second place after Europe last year, leaving the United States with only a 22% world share. Asia rules the roost in materials science papers, with a 33% share last year. In physics, the U.S. decline meant an actual decrease in paper production, from a high of 22,971 in 1994 to 22,159 in 1998. The picture looks a little different, however, when it comes to measuring how widely each paper is cited. U.S. physics papers have long been cited at least 50% more often than the world average.



Pumping Up the Greenhouse

No shrinking violet when it comes to greenhouse warming, climate expert James Hansen has a new bet on the table: Warming is on an uptick like nothing since 1976, when the world's average temperature rose by 0.3 degrees Celsius. "We think the global temperature will be significantly higher in the next few years than [in] the past few decades," says Hansen, of NASA's Goddard Institute for Space Studies (GISS) in New York City. That will prove once and for all that global warming is "unnatural," he says.

Hansen has gone out on a limb before. In 1988, during a hot Washington summer with fires in Yellowstone National Park, he told Congress that the greenhouse had definitely arrived. In 1990, he bet that at least one of the next 3 years would be the hottest in a century. Indeed, 1990 was the century's hottest year until 1998 came along.

Now, in an upcoming issue of the *Journal of Geophysical Research*, he and his colleagues argue that the extreme global warmth of the last couple of years cannot be blamed solely on El Niño. Their latest modeling indicates that Earth's temperature will soon be fully responding to the heat-trapping effects of rising levels of greenhouse gases. Last year was 0.6°C warmer than the average for 1951 to 1980. The new prediction pegs the next jump to 0.5°C above average.

As usual, scientists outside of GISS aren't falling in line. Thomas Karl, director of the National Climatic Data Center in Asheville, North Carolina, says the 1998 warming, while uncommon, still might have been a random variation. "If I were a betting man, I would say no, we aren't in a jump" to a sharply warmer world. A few more years should tell who's the winner.

CREDITS: (TOP) BRENDAN MCKAY; (BOTTOM) ISI