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A world of pain THE MORALIST

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Imagine the pride of making a stunning scientific discovery. Imagine the shame of faking one and getting caught.

But shame isn't the worst outcome of phony science. It can cost taxpayers millions, taint legitimate science and dash the hopes of people affected by illness and disability. The recent scandal surrounding South Korean scientist Hwang Woo-suk's stem-cell research has shown that sleazy science can taint entire fields of research.

Hwang isn't the first offender. In 1998, Victor Ninov announced that he and a team of scientists had uncovered two new building blocks of the universe. Ninov was a Bulgarian-born nuclear physicist working at the U.S. Department of Energy's famous Lawrence Berkeley National Laboratory in Berkeley, Calif.

The periodic table of elements we all learned about in high school would have to be changed to include Ni nov's miraculous discovery of atomic element 118. Ninov purportedly uncovered 118, the heaviest known element, using the lab's powerful 88-inch cyclotron particle accelerator. Along with 118, Ninov claimed discovery of a companion element 116, a by-product of 118's rapid decay.

The scientific community greeted Ni nov's announcement with the highest praise. The nuclear physics world was abuzz with the possibility of the discovery of an element 119 using his methods.

But other researchers became suspi cious when they could not replicate Ni nov's findings. An official investigation concluded that Ninov had fabricated research data. Ninov filed a grievance, but lost his job. The scientific community has rejected Ninov's alleged discoveries.

Ninov's actions were unethical. He embarrassed Lawrence Berkeley and the Energy Department. The technical investiga tion following failed efforts to corroborate Ninov's research was expensive and time-consuming. A cloud of illegitimacy fell over the prestigious peer-reviewed journal, Physical Review Letters, which had published Ninov's phony work.

A year later, University of Connecticut and Connecticut state officials disclosed that at least one researcher at the university's Environmental Research Institute in Mansfield Depot had been falsifying test reports on toxins. Lab manager Jianshi Kang admitted he had changed results for toxic compounds found in air, soil and water samples from "unacceptable" to "acceptable" levels.

Kang's deception may have affected environmental public policy. He jeopardized the health of the region's residents. He and others in his lab accepted millions of dollars in grants and commissions for sloppy and fake research from unsuspecting private and public entities.

Kang's supervisor, George Hoag, was also to blame. He partly abandoned his du ties to pursue a million-dollar outside consulting career. Not only did Kang falsify data to avoid extra work, but lab employees reportedly carried out criminal schemes to extort thousands of dollars from foreign graduate students and research donors.

But the damage of Kang's and Ninov's ethical failures pale in comparison to the damage Hwang caused.

Before his fall from grace a few weeks ago for lying about the source of eggs used in his human embryo cloning research and for making up data in his stem cell

research, Hwang was a national hero. The internationally acclaimed researcher was the embodiment of tiny Korea's potential for world-class science. Children's books, now removed from the shelves of public libraries, extolled Hwang's virtues. Hwang's stem-cell research was so venerated that the Korean government issued a commemorative postage stamp.

Much of the adoration began even before Hwang appeared to have become the first scientist in history to have cloned human embryos for research; the first to have grown "tailor-made" stem cells, which matched a patient's DNA; and the first to have cloned a healthy mature dog.

As in Ninov's case, what seemed too good to be true wasn't. A junior member of Hwang's research team blew the whistle. An investigatory committee at the Seoul National University issued an interim report in December concluding that Hwang intentionally fabricated data.

Hwang had no choice but to admit it. He said he made up data after genuine data were destroyed by fungus. Hwang had earlier admitted to lying about receiving eggs from women connected with his lab for his human embryo cloning experiments.

The Korean government and people have been shocked and humiliated. The Hwang scandal leaves the world uncertain about the status of stem-cell research.

As a result of Hwang's unmasking, medical advances dependent upon human cloning seem as far away as ever. For example, the promise of an imminent cure for major spinal cord injuries has been broken. Grounds for doubt about the worth of continued public and private support for stem-cell research have been created. Hwang's misconduct has caused a world of pain.

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