Pseudoscience

Throughout the time after World War II, the United States and the Soviet Union were rivals in fields from rocketry to nuclear chemistry. But the republics of the former Soviet Union have always been, and still are, much weaker in the biochemical sciences, especially genetics. The reasons can be traced to one man’s “bad” science or “pseudoscience.”

In the late 1920s, a young scientist named T. D. Lysenko performed an experiment planting peas in the autumn for harvest in the winter. The plants grew well, and the experiment was described in the newspapers as a great success, since it could help the new Soviet agricultural system increase production.

However, the data were never published for other scientists to examine and retest. Also, that winter was unusually mild. Lysenko had not controlled his experiment to be sure his conclusions were valid.

He went on to other experiments which he claimed changed winter wheat into spring wheat and wheat into rye, again using questionable experimental techniques. Lysenko publicized his ideas, and the Soviet government was eager to apply them and reap the benefits.

Even though none of his innovations worked as well as he promised, Lysenko became the most trusted science advisor of Soviet leader Joseph Stalin. Stalin favored Lysenko partly because Lysenko had been born into a peasant family, which fit well with Stalin’s ideas about who should lead the Soviet Union. Lysenko’s ideas were also what Stalin wanted to hear: quick, easy solutions to the Soviet Union’s problems. But these criteria are not appropriate for judging the validity of scientific work.

In the meantime, instead of genetics and heredity, Lysenko embraced a theory that plants can pass on acquired characteristics to their offspring. His theory was completely opposed to the science of genetics, but it fit very well with the beliefs of some Soviet leaders.

Instead of carefully testing this theory or examining arguments against it, Lysenko used his influence to silence those who disagreed. Eventually 3,000 researchers in genetics were dismissed from work. One by one, his most vocal opponents were arrested. Many were killed or died in prison. Soon, few researchers would work on experiments that might involve genetics. Work in biochemistry and many related fields came to a standstill.

Even after Stalin and Lysenko died and the government officially repudiated Lysenko’s ideas, Soviet biologists found themselves starting from scratch, since an entire generation of researchers had been wiped out and there had been little contact with biologists from other nations.
HISTORICAL NOTE

**Pseudoscience continued**

The Soviet Union did not have a monopoly on pseudoscience. Even today, politicians and others make wild claims about things that are supposedly “scientifically proven,” and several famous researchers are under fire because of allegations that they have not performed their experiments according to the scientific method.