

The Soviets, Too, Let Ideology Trump Science

This agenda of ideology as science threatens democracy and freedom.

By Carl N. McDaniel

In 1948, Josef Stalin outlawed genetics in the Soviet Union. It was “bourgeois science” and “alien to the principles of socialism.” Marxist ideology had officially displaced the science of genetics.

The Bush administration is taking the United States down the same path by replacing science-based health and environmental policies with ideologically based policies.

The’Union of, Concerned Scientists has put the President on notice that the integrity of science is undermined as a result.

On assuming office, the Bush administration delayed and weakened the U.S. Forest Service’s 2001 Roadless Area Conservation Rule that prohibited logging and road building in 58 million acres of national forest. These areas were to remain unfragmented to preserve the health of major watersheds, to provide clean drinking water for millions of people, to protect habitat for hundreds of endangered species, and to maintain unmatched recreational opportunities. The administration overturned a consensus forged of decades of science and more than 2 million public comments.

President Bush, on his first Monday in office, effectively eliminated United States funds for family planning in developing countries. Numerous scientific studies establish that education and access to modern methods of family planning are the surest way to reduce abortions and lower population growth.

The ensuing years are filled with similar actions that ignore or obfuscate scientific input. And scientific findings are being suppressed and distorted.

For almost a year, the administration withheld an Environmental Protection Agency report that contained information on mercury poisoning in children. The report was released only after it had been leaked by an EPA official.

At Bush’s request, the National Academy of Sciences assessed the work of the Intergovernmental Panel on Climate Change. Both groups concluded: (1) overwhelming scientific evidence indicates global warming, (2) human activities contribute substantially to this warming, and (3) negative consequences for humans are likely to be immense. The administration maintained the science was insufficient for action. In 2002 and 2003, the administration had climate-change statements purged from EPA reports.

This spring, Elizabeth Blackburn, a cell biologist and a member of both the National Academy of Sciences and the Institute of Medicine, was dropped from the President’s Council on Bioethics.

Blackburn voted against a ban on therapeutic cloning because of its potential benefits to human health. She was replaced by a nonscientist likely to vote for a ban.

This agenda of ideology as science threatens democracy and freedom. It jeopardizes the critical role that sound science has played in improving public health, addressing environmental deterioration, improving workplace safety and sustaining credible government.

Perspective on the insidiousness and danger of replacing science with ideology is gained from the Soviet Union's misadventure with ideologically based agricultural policies.

It began when Trofim Lysenko, a Ukrainian peasant with only a certificate in agronomy, was propelled to scientific prominence by articles in the Communist Party newspaper Pravda (literally "truth") in the late 1920s. The pseudoscientific experiment that placed him in political favor was the purported conversion of winter wheat into spring wheat. Winter wheat takes two growing seasons to mature while spring wheat matures in one season.

What Lysenko described was the then-known phenomenon of vernalization, whereby many biennial plants remain vegetative until their second year, because they require a cold period, or vernalization, before they flower.

Lysenko said his results showed that environmental manipulations could change any plant trait. After a few years, he stated that genes did not exist and "geneticists were enemies of socialism."

Lysenko's pseudoscience prevailed for three decades. Ill-conceived project upon ill-conceived project failed to increase crop yields and people starved. Meanwhile, in the non-Soviet world, genetically based hybrid corn doubled and doubled again yields, the structure of DNA and the genetic code were deciphered, genetic diseases were identified and treated, and the foundation of modern molecular genetics was laid. The cost of Lysenkoism in terms of human suffering and lives lost is unknowable, but immense.

Ideologically based policy that disregards what sound science has to offer is bad policy. The current situation in the United States requires all citizens, scientists and nonscientists alike, to demand from their governmental officials, elected and otherwise, policies based on authentic science. Ignoring what science tells us is to risk the tragedy of Lysenkoism and the disastrous consequences pseudoscience will bring.

Carl N. McDaniel teaches at Rensselaer Polytechnic Institute.