

Why Politicized Science Is Dangerous

Imagine that there is a new scientific theory that warns of an impending crisis, and points to a way out.

This theory quickly draws support from leading scientists, politicians, and celebrities around the world. Research is funded by distinguished philanthropies, and carried out at prestigious universities. The crisis is reported frequently in the media. The science is taught in college and high school classrooms.

I don't mean global warming. I'm talking about another theory, which rose to prominence a century ago.

Its supporters included Theodore Roosevelt, Woodrow Wilson, and Churchill. It was approved by Supreme Court justices Oliver Wendell Holmes and Louis Brandeis, who ruled in its favor. The famous names who supported it included Alexander Graham Bell, inventor of the telephone; activist Margaret Sanger; botanist Luther Burbank; Leland Stanford, founder of Stanford University, the novelist H. G. Wells; the playwright George Bernard Shaw; and hundreds of others. Nobel Prize winners gave support. Research was backed by the Carnegie and Rockefeller Foundations. The Cold Springs Harbor Institute was built to carry out this research, but important work was also done at Harvard, Yale, Princeton, Stanford, and Johns Hopkins. Legislation to address the crisis was passed in states from New York to California.

These efforts had the support of the National Academy of Sciences, the American Medical Association, and the National Research Council. It was said that if Jesus were alive, he would have supported this effort.

All in all, the research, legislation, and molding of public opinion surrounding the theory went on for almost half a century. Those who opposed the theory were shouted down and called reactionary, blind to reality, or just plain ignorant. But in hindsight, what is surprising is that so few people objected.

Today, we know that this famous theory that gained so much support was actually pseudoscience. The crisis it claimed was nonexistent. And the actions taken in the name of this theory were morally and criminally wrong. Ultimately, they led to the deaths of millions of people.

The theory was eugenics, and its history is so dreadful—and, to those who were caught up in it, so embarrassing—that it is now rarely discussed. But it is a story that should be well known to every citizen, so that its horrors are not repeated.

The theory of eugenics postulated a crisis of the gene pool leading to the deterioration of the human race. The best human beings were not breeding as rapidly as the inferior ones—the foreigners, immigrants, Jews, degenerates, the unfit, and the “feeble minded.” Francis Galton, a respected British scientist, first speculated about this area, but his ideas were taken far beyond anything he intended. They were adopted by science-minded Americans, as well as those who had no interest in science but who were worried about the immigration of inferior races early in the twentieth century—“dangerous human pests” who represented “the rising tide of imbeciles” and who were polluting the best of the human race.

The eugenicists and the immigrationists joined forces to put a stop to this. The plan was to identify individuals who were feeble-minded—Jews were agreed to be largely feeble-minded, but so were many foreigners, as well as blacks—and stop them from breeding by isolation in institutions or by sterilization.

As Margaret Sanger said, “Fostering the good-for-nothing at the expense of the good is an extreme cruelty ... there is no greater curse to posterity than that of bequeathing them an increasing population of imbeciles.” She spoke of the burden of caring for “this dead weight of human waste.”

Such views were widely shared. H. G. Wells spoke against “ill-trained swarms of inferior citizens.” Theodore Roosevelt said that “Society has no business to permit degenerates to reproduce their kind.” Luther Burbank: “Stop permitting criminals and weaklings to reproduce” George Bernard Shaw said that only eugenics could save mankind.

There was overt racism in this movement, exemplified by texts such as *The Rising Tide of Color Against White World Supremacy*, by American author Stoddard. But, at the time, racism was considered an unremarkable aspect of the effort to attain a marvelous goal—the improvement of humankind in the future. It was this avant-garde notion that attracted the most liberal and progressive minds of a generation. California was one of twenty-nine American states to pass laws allowing sterilization, but it proved the most forward-looking and enthusiastic—more sterilizations were carried out in California than anywhere else in America.

Eugenics research was funded by the Carnegie Foundation, and later by the Rockefeller Foundation. The latter was so enthusiastic that even after the center of the eugenics effort moved to Germany, and involved the gassing of individuals from mental institutions, the Rockefeller Foundation continued to finance German researchers at a very high level. (The foundation was quiet about it, but they were still funding research in 1939, only months before the onset of World War II.)

Since the 1920s, American eugenicists had been jealous because the Germans had taken leadership of the movement away from them. The Germans were admirably progressive. They set up ordinary-looking houses where “mental defectives” were brought and interviewed one at a time, before being led into a back room, which was, in fact, a gas chamber. There, they were gassed with carbon monoxide, and their bodies disposed of in a crematorium located on the property.

Eventually, this program was expanded into a vast network of concentration camps located near railroad lines, enabling the efficient transport and killing of ten million undesirables.

After World War II, nobody was a eugenicist, and nobody had ever been a eugenicist. Biographers of the celebrated and the powerful did not dwell on the attractions of this philosophy to their subjects, and sometimes did not mention it at all. Eugenics ceased to be a subject for college classrooms, although some argue that its ideas continue to have currency in disguised form.

But in retrospect, three points stand out. First, despite the construction of Cold Springs Harbor Laboratory, despite the efforts at universities and the pleading of lawyers, there was no scientific basis for eugenics. In fact, nobody at that time knew what a gene really was. The movement was able to proceed because it employed vague terms never rigorously defined. “Feeble-mindedness” could mean anything from poverty and illiteracy to epilepsy. Similarly, there was no clear definition of “degenerate” or “unfit.”

Second, the eugenics movement was really a social program masquerading as a scientific one. What drove it was concern about immigration and racism and undesirable people moving into one’s neighborhood or country. Once again, vague terminology helped conceal what was really going on.

Third, and most distressing, the scientific establishment in both the United States and Germany did not mount any sustained protest. Quite the contrary. In Germany scientists quickly fell into line with the program. Modern German researchers have gone back to review Nazi documents from the 1930s. They expected to find directives telling scientists what research should be done. But none were necessary. In the words of Ute Deichman, “Scientists, including those who were not members of the [Nazi] party, helped to get funding for their work through their modified behavior and direct cooperation with the state.” Deichman speaks of the “active role of scientists themselves in regard to Nazi race policy ... where (research) was aimed at confirming the racial doctrine ... no external pressure can be documented.” German scientists adjusted their research interests to the new policies. And those few who did not adjust disappeared.

A second example of politicized science is quite different in character, but it exemplifies the hazards of government ideology controlling the work of science, and of uncritical media promoting false concepts. Trofim Denisovich Lysenko was a self-promoting peasant who, it was said, “solved the problem of fertilizing the fields without fertilizers and minerals.” In 1928 he claimed to have invented a procedure called vernalization, by which seeds were moistened and chilled to enhance the later growth of crops.

Lysenko’s methods never faced a rigorous test, but his claim that his treated seeds passed on their characteristics to the next generation represented a revival of Lamarckian ideas at a time when the rest of the world was embracing Mendelian genetics. Josef Stalin was drawn to Lamarckian ideas, which implied a future unbounded by hereditary constraints; he also wanted improved agricultural production. Lysenko promised both, and became the darling of a Soviet media that was on the lookout for stories about clever peasants who had developed revolutionary procedures.

Lysenko was portrayed as a genius, and he milked his celebrity for all it was worth. He was especially skillful at denouncing his opponents. He used questionnaires from farmers to prove that vernalization increased crop yields, and thus avoided any direct tests. Carried on a wave of state-sponsored enthusiasm, his rise was rapid. By 1937, he was a member of the Supreme Soviet.

By then, Lysenko and his theories dominated Russian biology. The result was famines that killed millions, and purges that sent hundreds of dissenting soviet scientists to the gulags or the firing squads. Lysenko was aggressive in attacking genetics, which was finally banned as “bourgeois pseudoscience” in 1948. There was never any basis for Lysenko’s ideas, yet he controlled Soviet research for thirty years. Lysenkoism ended in the 1960s, but Russian biology still has not entirely recovered from that era.

Now we are engaged in a great new theory, that once again has drawn the support of politicians, scientists, and celebrities around the world. Once again, the theory is promoted by major foundations. Once again, the research is carried out at prestigious universities. Once again, legislation is passed and social programs are urged in its name. Once again, critics are few and harshly dealt with.

Once again, the measures being urged have little basis in fact or science. Once again, groups with other agendas are hiding behind a movement that appears high-minded. Once again, claims of moral superiority are used to justify extreme actions. Once again, the fact that some people are hurt is shrugged off because an abstract cause is said to be greater than any human consequences. Once again, vague terms like *sustainability* and *generational justice*—terms that have no agreed definition—are employed in the service of a new crisis.

I am not arguing that global warming is the same as eugenics. But the Similarities are not superficial. And I do claim that open and frank discussion of the data, and of the issues, is being suppressed. Leading scientific journals have taken strong editorial positions on the side of global warming, which, I argue, they have no business doing. Under the circumstances, any scientist who has doubts understands clearly that they will be wise to mute their expression.

One proof of this suppression is the fact that so many of the outspoken critics of global warming are retired professors. These individuals are no longer seeking grants, and no longer have to face colleagues whose grant applications and career advancement may be jeopardized by their criticisms.

In science, the old men are usually wrong. But in politics, the old men are wise, counsel caution, and in the end are often right. The past history of human belief is a cautionary tale. We have killed thousands of our fellow human beings because we believed they had signed a contract with the devil, and had become witches. We still kill more than a thousand people each year for witchcraft. In my view, there is only one hope for humankind to emerge from what Carl Sagan called “the demon-haunted world” of our past. That hope is science.

But as Alston Chase put it, “when the search for truth is confused with political advocacy, the pursuit of knowledge is reduced to the quest for power.”

That is the danger we now face. And that is why the intermixing of science and politics is a bad combination, with a bad history. We must remember the history, and be certain that what we present to the world as knowledge is disinterested and honest.

Michael Crichton

State of Fear

APPENDIX I