

Why science cannot stand alone

Jean Bethke Elshtain

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Abstract In an era in which certain arenas of scientific research have become increasingly controversial, this article critically evaluates what it means to “believe in science.” Many scientists today seem to claim a sovereign right to no political interference under the rubric of freedom. This article questions such a notion, and explores the dominance of science and the silencing of moral voices by undertaking two brief investigations—the first into National Socialist Germany, which insisted that it was defined by “applied biology,” and the second into the world of contemporary American biomedicine. When all ethical barriers are eradicated, it seems that a will to power takes over—manifested in Nazi Germany’s vaunted scientific autonomy. In light of these sobering historical examples, this article reminds the reader that members of the public, including physicians, rightly deliberate about how to *conscientiously* order their lives together, and that part of that intrinsically political deliberation is to set limits to the ways medical science is applied and what scientists may do in pursuit of their goals.

Keywords Science · Religion · Nazi Germany · Eugenics · Politics

Introduction

Scientific research has become a political football among us where certain controversial arenas of research are concerned (note, for example, the furor over embryonic stem cell research). The 2004 Democratic National Convention was especially interesting in this regard given the claims on behalf of science that were launched rhetorically. One convention speaker, Ron Reagan, son of the late president, inveighed against those who would interfere with scientific and medical

J. B. Elshtain (✉)
University of Chicago Divinity School, Swift Hall 202, 1025 E. 58th St., Chicago, IL 60637, USA
e-mail: jbelshsta@midway.uchicago.edu

research on the basis of obscure religious ideas, and who would, thereby, slow down the inexorable tide of progress. Young Reagan's scientific fantasy was of each of us carrying around a little kit filled with all sorts of stem-cell derived remedies, including replacement parts and the like. Presidential nominee John Kerry seized the moral high ground, proclaiming that we need a President "who believes in science." Those comments piqued my interest. What exactly does it mean to "believe in science?" Does it mean, as so many seem to suggest, that no challenges should be mounted concerning what scientists, including medical researchers, do?

Science, in this scheme of things, occupies a lofty sphere immunized from debates, challenges, dialogue—from politics, then. There is, to be sure, a bit of irony in politicizing the discussion about science in order to make the argument that politics—for politics is where morally fraught issues are joined in our society—should be kept far away from science. I wondered: do those who suggest we need to believe in science *tout court* truly believe that science should have a free hand? Do they really think that government should be there solely as an enabler, providing moral, financial, and institutional support to science without having any say concerning what scientists do?

I doubt many take their belief in science quite so far. It is the case, however, that science has become our authoritative discourse, the dominant way in which our Western world is framed: when science speaks other voices are to fall into a decent and respectful silence, especially if those other voices are deemed "religious." The trumping nature of scientific talk helps, for example, to account for why beleaguered creationists claimed the mantle of science for their enterprise—as scientific creationism—because they understand that this is the only way to get in on the conversation. For once you have claimed the honorific name "science" in quest for legitimacy, you enjoy automatic respect if you succeed and, some would argue, you also enjoy immunity from "unscientific" moral challenges.¹

Let's explore this a bit by undertaking two sorts of brief investigations—the first into a twentieth century order that insisted it was defined by "applied biology," National Socialist Germany, and the second into the very different world of contemporary American biomedicine. I do not intend to make what some have called an *argumentum ad Hitlerum*. But we can learn a great deal by exploring a totalitarian order in which scientific voices enjoyed a special status. It is a fateful mistake to see Nazi Germany as an outburst of irrationalism. It was anything but. Let's explore what happened in one case when moral voices were largely silent or silenced and scientific ambition ran amuck, aided and abetted by a state enamored with what physics and biological science could do to further the goals of armed conquest and the technological control over the lives and deaths of whole populations.

A fascinating text, Robert Proctor's award-winning *The Nazi War on Cancer*, serves as a point of entry into our subject. The National Socialist State was "progressive" in its approach to public health—at least for the majority whose

¹ There was and is, then, considerable irony in "scientific creationists" embracing "science" in the name of a specifically religious challenge to the hegemonic science account of the origins and development of life.

health counted to the state. What Proctor calls “the conventional narrative” treats the medicine of the Nazi era as one vast “monstrosity.” The Nazis are labeled occultists and irrationalists. Proctor insists this must be rethought in order to take account of the following:

Nazi nutritionists stressed the importance of a diet free of petrochemical dyes and preservatives. Nazi health activists stressed the virtues of whole-grain bread and foods high in vitamins and fiber. Many Nazis were environmentalists; many were vegetarians...Species protection was an ongoing concern, as was animal welfare....Nazi doctors worried about overmedication and overzealous use of X-rays; Nazi doctors cautioned against an unhealthy workplace and the failure of physicians to be honest with their patients—allowing momentous exclusions, of course, for the “racially unfit” or undeserving [1, p. 5].

German doctors had established the link between smoking and lung cancer decades before public health officials in Western democracies acknowledged this fact. Smoking was banned in public places. “Sixty of Germany’s largest cities banned smoking on streetcars in 1941 and smoking was banned in air-raided shelters...Smoking was banned in all German city trains and buses in the spring of 1944; Hitler personally ordered the measure to protect the health of the young women serving as ticket takers” [1, p. 203]. An educational campaign blanketed the Third Reich with information and propaganda urging pregnant women not to smoke for fear of harming the unborn child. The Nazi state attempted to “curb asbestos exposure” and to “secure food quality.”

How are we to understand this? Did such careful, “evidence-based” measures run counter to Nazi ideology or in tune with it? In fact, Proctor’s account demonstrates that such public health measures were in perfect synchronization with the National Socialist state’s insistence on a fit population and on preserving and increasing the fitness of the already fit—or those with the potential to be so. The unfit were dealt with in other ways, as we know. The “pioneering” work of the Nazis in the area of public health is something we prefer not to think about. How can those who were so monstrous undertake efforts that the majority of “right thinking” Americans support? And how to explain the direction the Nazis moved, in any case?

Proctor draws our attention to some startling facts. For example: “physicians joined the Nazi party in very large numbers” as did some “60% of all biologists.” Germany at the time of the Nazi rise to power was already the most “powerful scientific culture” in the world, “boasting half of the world’s Nobel Prizes and a sizable fraction of the world’s patents” [1, p. 15]. Along with extraordinary innovations in basic physics and engineering, they established the most successful cancer prevention program of the era. Germany was the first country to launch breast self-examination to detect tumors at early stages. Nazis deployed physicians to factory floors to oversee the health and safety of workers. Hitler declared that “reforming the human lifestyle” was “far more important” than anything else he might accomplish. The bitter irony at the heart of the National Socialist public health campaigns was perhaps most apparent at the notorious Dachau concentration

camp, which “became one of the world’s leading producers of natural botanicals and spices”—indeed, the “largest medico-botanical research station in the world”—thanks to the work of thousands of slave laborers. Thus the detritus of the Reich, the unfit, were compelled to labor for the health of the genetically superior Aryan race.

What does all this add up to? The obvious point is that “relations between science and society” are more complex “than is commonly imagined,” argues Proctor [1, p. 251]. We “need to better understand how the routine practice of science can so easily coexist with the routine exercise of cruelty” [1, p. 278]. Unfortunately, Proctor isn’t much help beyond this. The closest he comes to accounting for policies of killing *those* and improving the health of *these* is that the “social policies ultimately favored by the government equated value of life with ability to work” [1, p. 118]. This and a cruel eugenics ideology based on the most advanced science of the day underlay a state program to kill the mentally ill and physically handicapped. Some 200,000 adults, children, and infants were murdered by medical personnel, nurses and doctors.

The way had been paved for these developments—I refer here to murdering persons who were deemed less than genetically fit—by the publication of an essay by two physicians, Karl Binding and Alfred Hoche, on “life unworthy of life.” Some lives had negative value. The argument relied on a positivistic theory of law: one does away altogether with any notion of higher law or natural law and embraces law as the will of the German people. Those who cannot be striving, sovereign selves—the ideal of the human person—are a threat to sovereign selves. They weaken the gene pool and they create a burden on society. The weak burden the strong; ergo, the weak must die. A fusion of crude materialistic arguments, both economic and Darwinian, with utilitarianism—greatest good for the greatest number—added, contributed to the *Weltanschauung* that led to the deaths of persons with disabilities.

National Socialist Germany stands as a sobering example of politicized biology. For a regime to function as applied biology, certain antiquated moral norms, like the sacredness of human life, must be quashed. As one German physician put it, to the principle of the laws of biology all else “must be subordinated. The science of our people, too, on the basis of this Aryan biological value gauge has to serve their struggle for existence and preservation of their healthy life and of the race defining it in that it prepares and hands over as a weapon and equipment to the materializer, the fighter for what is important...for the struggle of the people for existence” [2, p. 28]. One must bear in mind these were Germany’s best scientists and that Germany then had the best scientists in the world. Yet how easily they were suborned or, perhaps better put, how alarming is the fact that when traditional ethical and moral barriers were eradicated, a will to power took over. When this will to power was hitched to the power of the state, the upshot was truly horrific.

One important doctor, Carl Schneider, professor of psychiatry and neurology at the University of Heidelberg, celebrated the fact that perhaps the time had come at last when a researcher “will one day do for psychiatry what Copernicus did for astronomy: exorcise the superstition of religious ideas and dogma from the essence of the soul, thus opening the door to a more profound, richer life for our people,

in harmony with its own powers and talents” [3, p. 210]. The richer life involved “The Children’s Operation” carried out by the Reich Committee for the Scientific Processing of Serious Genetic Diseases, and intended to be a model of progressive Nazi health policy as children were killed by specially authorized doctors. This was considered a therapeutic intervention. To facilitate all of this as early as 1939 the Reich Committee had introduced “the compulsory registering of all ‘malformed’ newborn children...In return for a payment...doctors and midwives were obliged to report instances of idiocy and Down syndrome; microencephaly; physical deformities such as the absence of a limb or late development of the head or spinal column; and forms of spastic paralysis” [4, p. 100].

Away with outmoded legal codes and religious creeds and conscientious objections; then science can really get to work! This vaunted scientific autonomy all took place under the framework established by the “enabling” Nazi State.

Now let us fast forward to March 2005. The prestigious *New England Journal of Medicine* published an essay on euthanasia for newborns, printing up the Groningen Protocol for such matters [5]. *The New York Times Magazine*, July 10, 2005, reprinted those protocols under the heading “Euthanasia for Babies?,” going on to ask: “Is this humane or barbaric?” [6]. I suspect that all of us know that the average reader of *The New York Times Magazine* prefers to choose the “humane,” not the “barbaric” alternative. And the humane course, it will not surprise you, favors infanticide if the correct procedures are followed. Euthanasia of newborns under such circumstances is the way of “reason.” Those who cry, “No, we must not cross that line,” advance the way of “sentiment,” also known as un-reason.

The essayist for the *Times*, Jim Holt, asks his readers to imagine a heated dining room table argument about such matters. The way of “reason” requires “unflinching honesty.” By contrast, moral “sentiments” are inertial, resisting “the force of moral reasons.” The essay concludes in this way: “Just quote Verhagen’s description of the medically induced deaths—notice the euphemistic way of putting intentional killing—over which he has presided: ‘It’s beautiful in a way...It is after they die that you see them relaxed for the first time’” [6]. Holt suggests that at this point even the most spirited dinner table debate over moral progress will fall silent. He imagines the hushed atmosphere as one in which diners are overwhelmed by the vision of peace at last for deformed or handicapped infants. I suspect many would fall silent from the shocking claim that we must give suffering infants peace by killing them.

Holt concludes by insisting that brutal candor—I am killing them and it’s the right thing to do—is ethically preferable to the much more complex approach that may involve permitting infants to die by withdrawing the heroic measures that keep them alive. The latter is presented as “casuistic confusion.” The pattern that emerges is that any course that reflects moral uneasiness is confused if not dishonest; any course that enables efficient “scientific” technique is honest and reasoned. In other words, medical science requires more “enablers” so that doctors can do the right thing, and doing the right thing in some cases involves euthanizing handicapped newborns.

It is evident that dangerous developments need not come at us like a runaway freight train. They can sneak up on cat’s paws, a few quiet footsteps at a time. The

attitude involved goes something like this: let us rid ourselves of restrictive and retrograde sentiments (such as the so-called judgments of conscience) and breathe the bracing air of reason. Once rationality is in place and moral carping is silenced, we can move forward. Then true scientific autonomy will have been attained. But we know that complete autonomy, whether for science or any other major enterprise, is impossible. Science always reflects a society's value system, its convictions about what is good and right and true. As such, the rush to eliminate handicapped newborns reflects one of the obsessions of our culture—the pursuit of beautiful, fit, even perfect, bodies. Embryonic stem cell research enters here as well. We want infinitely renewable bodies; we want everything to be fixable, and the celebrants of stem cell research have been promising a vast array of miracle outcomes. If only all the constraints were stripped away, the reasoning goes, those promises could be realized.

What universe of ethical discourse is available to people in medical practice and research that might help them to sort out these matters? On several occasions over the past few years, I met with medical students taking a course on medical ethics. I took note of the fact that the textbooks reduced ethics to two options only: either Kant or Bentham, either deontology or utilitarianism. Utilitarianism, as we have already seen, can readily serve to knock down ethical barriers and limits so long as one could claim that the “greatest good for the greatest number” was best served by eliminating tens of thousands of unfit persons. Deontology radically oversimplifies matters by casting moral norms as categorical imperatives that cannot by definition conflict with one another. That has almost no concrete connection to the world as we know it where goods conflict all the time. One robust way to do ethics—casuistry—was conspicuous by its absence. In casuistry, one reasons from certain stipulated moral norms or ethical claims realizing, as one does so, that there may be cases where the claim or norm may be overridden given a particular set of highly exigent circumstances. A strength of casuistry and, it must be said, deontology, is that each approach tries to build in barriers to the creation of moral harm at present in the name of some hypothetical future good.

For example, in a recent volume issued by the President's Council on Bioethics on the subject of human dignity, one commissioned paper writer claimed the following: “I predict that those who today are morally opposed to embryonic stem cell research will fall silent once the clear medical benefits begin to emerge” [7, p. 99]. Now this is an astonishing statement for many reasons. It suggests, first, that principled moral opposition can be erased by cumulative instrumental benefits—now merely imagined—and, second, that good itself is located in future states of affairs that trump any harms in the present. People who make these sorts of arguments find voices of opposition an unpleasant vexation. This particular expert goes on to accuse moral opponents of favoring misery and death over the salutary benefits of, e.g., mass vaccinations against human papilloma virus (HPV), which the writer likens to the smallpox vaccine.

This, of course, implicates the writer in a set of background assumptions and values she does not bring to the surface for debate. She assumes, for example, that the HPV vaccination is currently safe and will also prove to be harmless down the road. She neglects to note that unlike smallpox, HPV infection is associated with

specific behavioral correlates—in this case intimate sexual contact, and she assumes that it is good to treat all teenage girls as if they are likely to have multiple sexual partners beginning at a young age. What is interesting here is that those who most decry the alleged moral certitude of religious believers and other strong moral evaluators are themselves awash in unyielding certitude that manifests itself in not taking seriously the arguments of those they oppose.

In a second example, a distinguished philosopher in the volume finds it remarkable that people get excited about a “non-sentient clump of cells” that have no bearing on human dignity and its violation [8, p. 374]. Why should we not freely create and destroy embryos given the allegedly promising, indeed nigh utopian, benefits that will result at some future point? No matter that the benefits remain entirely hypothetical at present.

These are all matters we should debate. When physicians peaceably refuse to participate in some new moral project involving the application of medical science, they stand as witnesses to the intrinsic connections between science and ethics in the practice of medicine. They help to bring our norms out into the open, and they force us to ask and to debate many important questions. For example, does medicine today continue to function under the “do no harm” principle or has that wavered and weakened over time? Too often nowadays bioethics is an industry for “the production of rationalized permission slips,” according to yet another writer in the human dignity volume, as scientific and technological imperatives are joined to wealth. What we need, the author insists, is people debating, “How are we to order our life together?” [9, pp. 217, 221] Inescapably the question of limits to what we are permitted to do is a political question and we cannot remove fraught moral questions from political debates. Medical personnel and bioethicists alone cannot decide the question.

We live in a curious moment. Science continues to claim its sovereign right to be unencumbered by interference of any kind under the rubric of freedom. But our society, indeed any minimally decent society, has the task, at times, of setting limits to what scientists or any other group does in pursuit of its goals—including fame and fortune. This doesn’t mean blocking valuable research. It does mean that not just anything goes. We live in a moment when the very idea of human dignity is under assault—that small, precious idea that underwrites human rights. We should all be afraid, indeed very afraid, when attempts are made to crush the remnants of the sacredness of human life to which we yet cling. Philosopher Peter Singer has made it his life’s work to deconstruct any such notion as the sacredness of human life and the upshots, for him, include permitting infanticide, euthanasia for those with disabilities, favoring, in a life and death situation, a “normal” chimpanzee over a less-than-normal human child, and so on [10, pp. 17–22].

In this regard, we need to be more aware of our own history, including the American fascination with euthanasia, an effort that combined or intertwined with eugenics, social Darwinism, and attempts to destroy traditional morality and ethics—all in the name of science. The criteria for selection put forward by American euthanasia organizations pretty much followed those of German National Socialism: the old, infirm, difficult, “cripples,” and the mentally retarded. A spokeswoman for the euthanasia society of America expressed some unhappiness

“with Nazi methods but not with the results.” Noting that in May of 1940 the Nazi doctors “gave the insane [Polish] children of several asylums morphine and then shot them,” she added “of course, this is a great blessing, but it is too bad that it had to come about in just that way” [11, p. 71]. Americans did not, to be sure, go the route of claiming entire groups of people were *untermenschen* fit only for destruction or slave labor. But a number of states authorized coercive sterilization of the “feebleminded” and pushed through other eugenics measures. This prompted the famous, or infamous, Supreme Court case of *Buck v. Bell*, remembered for Justice Oliver Wendell Holmes’ pro-eugenics line, “Three generations of imbeciles is enough” [12].

We have entered an era of scientific fundamentalism and particularly genetic fundamentalism—the notion that who I really am comes down to my DNA. We are obsessed with it and obsessed with the human body as a project—our own gleaming construction—so we do not want any squeamish ethical types, and especially not our physicians, calling a halt to this or raising questions about that. “Positive genetic enhancement” is the goal. When something as minor as a cleft palate makes a fetus worthy of abortion (there was a case in the U.K. a few years ago on precisely this issue) and when it becomes possible, as we are promised it will, to manipulate genetic material, we will have the power to eliminate cleft palate. Once cleft palate is eliminated, we will move the line somewhere else. The upshot is that each small “defect” will then loom larger, for the search for perfection never ends. This helps to explain why more than eighty percent of fetuses that test positive for Down’s Syndrome are aborted today [13]. We are busy eliminating an entire category of human being. Abortion, we are assured, is the old-fashioned way. The new methods will be sleeker and easier and less likely to cause mental pain or moral conflict.

How does all of this relate to the place of conscience in the practice of medicine? Science cannot stand alone. Medicine cannot stand alone. The worst possible outcome is when science and medicine are wedded to the powers of an omniscient state and this powerful union gets caught up in a will to power that eliminates obstacles that lie in its pathway—including those who conscientiously refuse to participate. This is the story of Germany under the National Socialists. Nor should we desire the second possible outcome—that science and medicine reign supreme in their own domains with the state as an “enabler” providing largesse but with voices of moral and ethical constraint and opposition—including those of health care professionals—increasingly weakened or limited. In America today, we seem to be drifting toward this second outcome when patients claim a right to have their physicians provide timely access to all legal medical interventions, regardless of how morally controversial those interventions or whether their physicians are ethically opposed. That is something to concern us all. When we set about violating conscience systematically, however difficult it is for us to appreciate what is at stake for the one whose conscience objects, we undermine the delicate tendrils of American freedom.

We ought all to hope for and work toward the third and best scenario—one in which medicine and politics and churches and other institutions of civil society engage in an ongoing debate about how we are to order our life together. Science and medicine do not stand alone, and scientific discourse does not automatically

trump every other way of thinking about human life. Over the long run, this third way would surely help science to think morally and more creatively about its own enterprise. And the challenge of dissenting voices, including physicians who conscientiously refuse to participate in morally controversial practices, helps ethicists to sharpen their arguments and focus in turn. Should this cultural debate end, we will all be the poorer as a result.

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