

Freespace

A blog by Timothy Sandefur
Radical ideas, responsibly advanced

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Separating science and state

[*Update:* Mike Dunford has provided a handy index of the entries in our debate [here.](#)]

Government should have no role in funding scientific research. I say this as a person who not only greatly admires scientific research and its accomplishments, but as a person who believes strongly in the scientific enterprise in general—by which I mean, [someone who believes that reason is the only proper means of knowledge](#) and who has no truck with religion and tradition and authoritarianism. Just to get my *bona fides* out of the way, I am seriously devoted to and interested in all forms of science, particularly biology, and have written at great length in defense of science and the material and intellectual—indeed, spiritual—progress it has brought us. Of all the kinds of corporate welfare, I am least opposed to science welfare.

Nevertheless, I do not believe in corporate welfare of any sort. I believe scientific research should not be funded by government. I believe the two ought to be separate for the same reasons as I believe in the separation of church and state, and that's an instructive analogy in many ways. Here, briefly, are my reasons for believing government should not fund scientific research:

1. It is immoral

It is morally reprehensible to use government's coercive power—which, like it or not, means government's power to imprison people, and to do other violent acts to them—to take away people's earnings for projects that someone else considers worthwhile. It violates people's right to their earnings—which is to say, their right to property—and since that property is created through the efforts of their minds and bodies, that means it violates their right to their liberty. I don't believe in taking people's earnings by force, for any motive, no matter how noble (and, again, I certainly do consider scientific progress a noble motive). [My life and the fruits of my labor are mine](#), and it is wrong for others to force me to give up part of my life and the fruits of my labor to support *them*, whether those people happen to be slavers and robbers, or biologists and physicists.

2. It's unconstitutional

Of course, the moral objection is obviated, sort of, maybe, by the consent of the governed. In theory, we have (tacitly) agreed through the Constitution to allow the government to tax us for certain purposes. Those purposes are set forth in [Article 1 section 8 of the Constitution](#),

which lays out all of Congress' powers. Funding science projects (except insofar as they might serve, say, military purposes) is not among them.

Unless we are prepared to ignore constitutional scruples (something most Americans do most of the time, but are generally loath to admit), this is at least a serious concern. Of course, one can find lawyerly ways of justifying such projects, and I recognize that the courts have done just this over the years; the most common one is to torture the commerce clause for this reason. But I find this justification implausible, for reasons explained at length in other, [more detailed works on the meaning of the commerce clause](#).

3. It ignores government's lack of qualifications and incentives

As [public choice theory](#) has so effectively demonstrated, any time government can impose burdens on, or grant benefits to, private interest groups, those groups will use their time and effort to persuade government to do that in their favor. Legislation then gets enacted for the private benefit of political insiders, rather than for the “genuine public good.” This is just as true in science as it is in public contracting, occupational licensing, or any other endeavor. I believe it corrupts scientific integrity for investments and grants to be made on the basis of personal favoritism and political influence. I do think that this happens less often in the field of science than in other fields, but it still happens; it's inevitable, and it's nasty. [Craig Venter's recent autobiography](#) detailed some pretty sickening examples of it. Whenever government is in the position to decide what scientific projects get funded, it's going to abuse that power, and political interest groups are going to try to *persuade* it to abuse that power.

It's essential to remember that government cannot *create* wealth. It can only *distribute* wealth—after taking it away from those who did create it (and after keeping a portion for itself). In other words, government can only engage in assembling and directing capital into various channels. The question, therefore, is whether we have any reason to think that government is wiser when it comes to distributing capital to scientific research than private industry would be. And to answer that question, we have to look at their expertise and their incentives.

As for qualifications, government officials have only the qualification that they got themselves elected—by saying the right things to the right people in the right way. Case in point, George W. Bush. Like other politicians, he had no particular expertise in anything whatsoever, and although he might appoint experts to advise him, [the experts he chose](#) were often not actually experts, but just people who persuaded him to think they were experts. Also, in cases where there are genuine scientific controversies, politicians will choose those whose views are politically useful to them, thereby distorting actual controversies in the eyes of the general public and making it more difficult to resolve those debates scientifically. It's [not a mistake that Leon Kass](#) got a prominent role as Bush's bioethics advisor.

Second, what incentives do government officials face when deciding what projects deserve to be funded? Generally speaking, a private actor making that decision faces the discipline of the marketplace: if he makes bad decisions, he pays for them, and if he makes good decisions, he enjoys the rewards. Politicians, on the other hand, do not pay for bad decisions, and are skilled at making bad decisions look like good ones. If the military, for example, devotes money to

[researching ridiculous claims of psychic phenomena](#)—nobody loses his job over it. You cannot sue politicians for making bad decisions with your money. If a corporate CEO throws your money away like that, you can sell your shares, sue the company, or even have the CEO thrown in jail. You can't do that to government officials. In some cases, you can vote them out of office, but since most of these decisions are not made by *elected* officials, but by *unelected* administrative agencies, you cannot even do that. They are insulated from every incentive except one: to make their power and their budgets grow over time.

Those who are elected face the incentive of pleasing noisy interest groups—not of making objectively good decisions about science research. Remember when Clinton created *yet another* commission to prove the existence of [Gulf War Syndrome](#)? What about the British National Health Service [allowing patients to spend taxpayer money on homeopathy](#)? And the politicians who today truckle to the [anti-vaccination movement](#), just because they're loud, even though there is no scientific basis whatsoever for their claims?

The question is not whether there is some hypothetically perfect way of deciding which research projects to fund and how; there is not. The question is whether there is any reason to believe that politicians are *more* skilled at making those decisions than are private individuals and private organizations. Given their expertise and their incentives, I see no reason to believe that government officials are more qualified to make those decisions, and [good reason to believe they are less qualified](#).

4. It ignores the dispersed nature of knowledge and needs

But even aside from questions of expertise and incentives, there is a more fundamental problem: political institutions are [structurally incapable](#) of making the “right” decisions about investing money in research. When politicians distribute wealth, they will not distribute it in ways that you and I—actual people who *actually* face *real* needs—want it distributed. Instead, politicians will distribute it in ways that the *politicians* want to see it distributed. Those are two very different things, and the difference between them grows over time.

If a working class man needs to buy a new car to get to his job, by what standard can it ever be “the correct” decision to take his money from him and spend it on a Mars mission instead? The federal government pledged (although it later recanted) to spend \$12 billion on the [Superconducting Supercollider](#) in Texas—money that could have gone instead to AIDS or cancer or heart disease research; that might have been spent to teach kids to read, or to buy up forest land and preserve it against destruction, or to clean up oil spills. By what criterion do we determine which use of this money is the “right” use? There simply *is* none. [The only way to see what people actually value is to see what decisions they freely choose to make with the assets they own](#). And there is no other sense in which the word *value* has any meaning. [Information about economic needs is inherently dispersed](#); it cannot be aggregated into a central planning mechanism.

You may think a person is superficial for wanting to spend his money on a new television set or a video game instead of donating it to a scientific enterprise; that is your right, (and an easy accusation to make against other people's spending decisions). But to say that there is such a

thing as a “correct” decision about how he should spend his money, other than, or without regard to, *what he actually wants and is willing to pay* is a senseless and dangerous undertaking. No government should *ever* adopt the proposition that there is a “correct” use of money other than what actual people actually want and need in their lives. As [I wrote recently](#) on *Freedom Politics*,

When politicians take money from people for projects that they think they nation “ought” to have, without regard to what consumers want, need, and are willing to pay for, the stage is set for the farcical tyrannies we’ve seen in other nations.

Consider the [House of the People in Bucharest, Romania](#)—the world’s second largest building. Under the direction of Nicolae Ceausescu, construction on the 696,000 square foot palace began in 1983. Today, it contains 1,100 rooms, 480 chandeliers, and over 35 million square feet of marble, and it remains unfinished. It was built by a political leader who decided to spend the nation’s money on an ornate castle—while the people suffered shortages and sat on three-year waiting lists for washing machines or televisions.

This is an extreme example, but the principles are the same as in the case of the Supercollider, or other expenditures of government funding. In each case, what (a) people actually would choose to do with their money and what (b) political leaders decide is the “better” use of their money, are two different things. And over time, (a) and (b) separate and grow farther apart. The farther they get from each other, the more you see distortions in the market, inefficiency, corruption, waste, and abuse, and eventually you have two classes: the political insiders who live well and decide what the nation “truly” needs, and the workers who do not get what they want and need, and who generate the wealth taken to fund the insider’s plans. The existence of [nomenklatura](#) is not an accident or a coincidence.

The point is that it is senseless to say money “ought” to be spent on research when the people who earned that money would have chosen to do something else with it—but have lost that money to the government through taxation instead.

5. It distorts science

Closely related to the corrupting effects on the economy caused by government “investments” is the corruption of science that inevitably results from government interference. Probably the most well known problem caused by government intervention in science is the effects it has on science itself. Chris Mooney’s book about the [Republican War on Science](#) made an effective argument that the Republican party was abusing and perverting scientific findings and manipulating scientists themselves for their own political ends. But, [as he \(quietly\) admitted](#), the Democratic party has often done exactly the same thing. (One recent example from just this week, in [the more extreme hysteria about global warming](#)).

The bottom line is: [when government writes the checks, it will make the rules](#), and those rules will interfere with scientific independence and scientific integrity. Political leaders will, of course, use science for their own ends—for the same public choice reasons I mentioned above.

There are some very disturbing examples of where this trend leads in extreme cases—[Lysenko](#), for example. As Jacob Bronowski wrote,

Government is an apparatus which exercises power and which is bent on retaining it, and in the twentieth century more than ever it spends its time in trying to perpetuate itself by justifying itself. This cast of mind is flatly at odds with the integrity of science, which consists of two parts. One is the free and total dissemination of knowledge: but since knowledge leads to power, no government is happy with that. The other is that science makes no distinction between means and ends: but since all governments believe that power is good in itself, they will use any means to that end.... [Lysenko] was able to falsify biology on a grand scale, to bring up his students in ignorance and deceit, and, incidentally, to do lasting damage to Russian agriculture. These are the consequences of the manipulation of science for the sake of political conformity and power. Yet to my mind Lysenko did a greater harm than all these: by being able to silence those who tried to argue with him, he destroyed the trust of other Russian intellectuals in their scientists.

The Disestablishment of Science, in [A Sense of The Future](#) 242-43 (1977).

The respectability of scientists in the United States has been earned through extremely patient hard work, and it should not be squandered. But if scientists ally themselves too closely with the state, they will squander that reputation, no matter how respectable their motives. I believe scientists must preserve their independence and respectability, and that means separating themselves as much as possible from policy making. They should advise, certainly, but when they wield power, they don't just undermine their own personal objectivity, they threaten the public image of science, and the influence of science in general in modern society.

6. It gives government cover for its projects

Similarly, when government can wrap itself in the mantle of scientific respectability, it can get away with many abuses. Throughout the twentieth century, we saw some [truly shameful actions](#) perpetrated by government claiming (with plausibility, at the time!) to represent scientific progress. Eugenics and segregation in this country were often justified on scientific grounds, and by people who were then at the very top of their scientific professions. When government claims the allegiance of scientists, it can use that allegiance as a pretext for doing awful things to people.

7. It's not necessary

Probably the most common objection to ending government subsidies for science research is that it's necessary because private industry won't make the investments for pure science, or is too insistent on immediate returns on investments so that private investors will not devote money to research that lacks an obvious commercial application.

There are two problems with this objection. [Terence Kealey has pointed out](#) that scientific research is already largely funded by private industry, and that funding tends to be dramatically more efficient in making a real difference in the lives of real people. (See, for instance, his book

[The Economic Laws of Scientific Research](#)). Private philanthropic organizations devote a tremendous amount of private money to scientific research, and it is good quality research. The March of Dimes, the American Heart Association, and the American Cancer Society receive boatloads of money from non-government sources. The Hughes, Keck, Rockefeller, and Carnegie Foundations have poured hundreds of millions of dollars into top-notch scientific research. David Packard of Hewlett Packard gave *\$4 billion* to his research foundation. And a lot of this research is long-range research into sciences that may not have practical application for a long time. There cannot be serious doubt that private industry is very capable, and until the rise of the Military-Industrial Complex in the 1950s, was by far the leader, of investment in scientific research.

The second problem is hidden in the argument that private persons or organizations are only interested in immediate commercial applications. This is usually said in such a way as to suggest that private investors are vulgar materialists, too faithless to be patient for the long-term rewards for research or too ignoble to approve of knowledge for its own sake. But in fact it is a *good* thing for people who make investments—whether private industry or government—to consider the time element and avoid investments that, although they might pay off someday, are too unlikely to make a difference in the short range to make that investment worthwhile. It's just this choice that makes the difference between wise investing and foolish investing. If I have \$100 and I can choose either to invest it in research that might (or might not) increase crop yields for African farmers over the course of two decades, or in a simple device that can protect them against getting malaria tomorrow, it is *not* foolish or shortsighted to choose the latter over the former. Being short-range is sometimes a wise thing. And no system is more capable of weighing costs and benefits of short-term or long-term investments, than the system of private enterprise.*

What's more, take a more skeptical look at some of the alleged payoffs of government-funded research. It's true that government-run science projects have sometimes created great new innovations (as well as some pretty awful ones). But a lot of these discoveries would have been made by private research institutions, for less cost, and with less bureaucratic interference. And much of the time, these alleged benefits are wildly exaggerated. My favorite is NASA's website trying to sell people on the benefits of the space program, which says that, to name just one example, [cordless power tools were created for the Apollo program](#). But, as a different NASA website admits, [that just ain't so](#). (Neither were Tang, or Velcro, or Teflon, or the smoke detector, or quartz clocks...) Even if it were, was *that* really the cheapest, most efficient way to invent battery-powered drills? Meanwhile private industry invented everything from [the airplane](#) to the [baby incubator](#).

What about “pure research”? To say government ought to invest taxpayer money in technologies with no obvious commercial applicability is to say that the government should force us to invest in projects that might never pay off, or might pay off too far into the future to do people much good—that is, that the government should *force us to make risky investments*. And to say that the government should invest in pure research with *no* real-world application *at all* means that the government ought to force a person to give up her money to projects that will do her *absolutely no good whatsoever*—money she might have devoted to something she actually really needed or wanted. This is indefensible morally and practically. It is not “anti-science” to say that a single

mom working late in a nightclub in Houston should not be forced to give up part of her earnings to [the search for the Higgs boson](#).

Finally, I return again to the real question. It's not whether we can devise some perfect means of investing in research. It's whether there's any reason to think government is better at it than private industry. Obviously it's true that wise investing in research requires a long-range mindset and sometimes a willingness to devote time and money to projects without an obvious payoff. But that's true whether the investor is private industry or government—and do we have any reason to believe government has more patience or more insight, or is less subject to trivial pressures and changes of mind than is private industry? I see no reason to think so. We know all too well that government is [very likely to make bad long-range plans](#), or no long-range plans at all, in the pursuit of short-term prestige and popularity.

Note that these seven objections are basically the same objections raised by Thomas Jefferson and James Madison against the unity of church and state. Their opponents, of course, argued that private industry could not *possibly* support churches—that [religion needed government funding](#), else people would not choose to donate their money to religious causes. But Jefferson and Madison rightly argued that religion would be immeasurably strengthened by separating the two: it would increase the integrity and respectability of religion, weed out religious movements that deserved to fade away, and ensure greater safety to the rights of dissenters while respecting the freedom of mainstream believers and eliminating the tendencies to abuse.

Again, I enjoy and applaud science and admire scientists more than I can say. I think nothing is more noble. But science welfare is still corporate welfare; money taken by force away from people who have earned it, and distributed by government in ways that inevitably lead to waste and [corruption](#). For science's sake and for the sake of individual rights, government and science should be entirely separated.

*--As Hayek said in his [Nobel lecture](#),

Into the determination of...prices and wages there will enter the effects of particular information possessed by every one of the participants in the market process—a sum of facts which in their totality cannot be known to the scientific observer, or to any other single brain. It is indeed the source of the superiority of the market order, and the reason why, when it is not suppressed by the powers of government, it regularly displaces other types of order, that in the resulting allocation of resources more of the knowledge of particular facts will be utilized which exists only dispersed among uncounted persons, than any one person can possess. But because we, the observing scientists, can thus never know all the determinants of such an order, and in consequence also cannot know at which particular structure of prices and wages demand would everywhere equal supply, we also cannot measure the deviations from that order; nor can we statistically test our theory that it is the deviations from that 'equilibrium' system of prices and wages which make it impossible to sell some of the products and services at the prices at which they are offered.

Update: I have a [rebuttal to Mike Dunford's comments here](#), and a [response to some of the questions and arguments raised in the comments here](#).

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