Should Politics Have a Place in Science?

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“Science, like any field of endeavor, relies on freedom of inquiry; and one of the hallmarks of that freedom is objectivity. Now more than ever, on issues ranging from climate change to AIDS research to genetic engineering to food additives, government relies on the impartial perspective of science for guidance.” - President George H. W. Bush, 1990

Introduction

Many people consider politics and science to be two distinct enterprises. Some may even venture to say that science pursues truth, whereas politics pursue interests. Take a deep look into the pork barreling and publishing specifications, and you will find that the line between politics and science is a fine one. With such a subtle boundary, it remains questionable if public policy results from scientific evidence or if the evidence results from public policy. Should politics even have a place in science?

This remains a highly controversial issue. If the government no longer subsidizes science research, overall investment in some fields will likely decrease, and developmental capital could disappear altogether. Although many researchers need government funds to continue their work, scientists should remain independent from politicians, providing research that pursues scientific truth instead of fulfilling political agendas.

Much of the controversy over politics’ financial contributions to science stems from the ethical implications of advancing bias in general scientific practice. Whether by controlling funding, practicing aggressive editing, or limiting publication, politics threaten to limit knowledge in a manner detrimental to the development and to the dissemination of a higher human understanding. Although incorporating an agenda into science holds some ethical justification in certain circumstances—most often private interests funded by non-governmental capital—politics in supposedly unbiased public science generally contradict sound ethical judgment.

Most importantly, politics in science explicitly intended to exclude bias appears unethical based on a Utilitarian perspective of ethics. When the greatest welfare compares to the marginal benefit that special interests gain through influencing general science, justification for funding, editing, and publication controls based on politics erodes. Thus, the good (or utility) contributed to human knowledge and to higher understanding achieved through scientific research outweighs the harm inflicted on political interests who cannot advance an agenda. However, bear in mind that “general science” must signify research with the sole purpose of unbiased discovery practiced by virtuous entities.

Public scientific research depends on governmental approval for funding and publication; this relationship poses an ethical problem by potentially limiting information, and hence, the acquisition and the propagation of knowledge, which could adversely impact general understanding and welfare on a global scale. This paper intends to add to the examination of the
independence of politics and science by discussing first their relationship in funds allocation, revision, and publishing, and second by addressing the ethical implications that these relationships involve.

**Political Control of Public Scientific Research through Funds Allocation**

The government funds various research projects and therefore determines public science research budgets. However, scientists know much more about conducting research than politicians. The asymmetry of information between those who conduct the research and those who essentially govern it presents the fundamental problem of science policy. Scientists believe that they, not Congress, should set the priorities for research.² The principal concern in funding science research, therefore, is the criteria according to which federal funds are divided.

In the United States, Congress funds government agencies, which allocate specific research budgets. Scientists can then, in turn, apply for the support of numerous agencies. This pluralistic approach provides that Congress never prepares or votes on any single science research budget. Each agency submits a budget to the Office of Management and Budget, and their lobbyists negotiate until the White House submits its overall proposal to Congress. This lengthy process leaves room for political maneuvering, wherein the scientific community builds close relationships with those who can most-beneficially support their interests and get their research budgets approved.³ This system also presents the challenge that certain scientists and projects could come in “second” from agency to agency, receiving fewer funds overall than if Congress split the budget from a whole.

Due to the fact that this pluralistic approach lends itself to lobbying and political maneuvering, some public science research seems to be the newest recipient of pork barrel funding. In other words, government spending intends to enrich certain constituents by approving projects with concentrated economic or service benefits and by spreading costs among all taxpayers. So how do these earmarks actually get into the budget? Many are inserted in the “dark of the night.” For example, consider the Clean Air Act of 1990.

The public often cannot tell if Congress allocates funds most beneficially. The Clean Air Act originally contained a provision for a $19 million cattle methane emissions study. Methane, a greenhouse gas, contributes to the earth’s gradual warming by blocking infrared radiation from escaping earth into space. No single member of Congress would admit to having sponsored the particular study provision, so Congress removed it. As it turns out, the provision reappeared two additional times in subsequent editions, and President Bush eventually signed the act into law.⁴ No one knows how the provision entered the bill the first or third time, but more importantly, no one knows how Congress failed to remove it. Funding science research remains a public responsibility, but the public entrusts the integrity and productivity of the research to Congress and scientists.⁵

So why does the government fund scientific research? Some hold that since society benefits when scientists make discoveries, society should pay. Others would say it is because research advances public goods such as national defense, public health, and economic growth. People believe that the private sector will only fund research until its marginal cost exceeds its marginal benefit, or even worse perhaps, only if the return exceeds that of the firm’s other investments. If this is the case, then government involvement subsidizes the under-funding of research by individual firms.⁶ Assuming these research projects require public funding, the concern remains whether federal money can be granted without federal control. It appears that
granting money in and of itself demonstrates some control, for government agencies decide which projects to support financially.

Beyond the issue of granting funds to certain projects lies an even more pertinent issue of federal funding: pressure to produce timely results. Unless policies are enacted to divert this pressure, applied research can drive out basic research. Applied research, designed for the purpose of producing results, may apply to real world situations, whereas basic research adds something new to a body of knowledge. Applied research presents an incentive for a form of control and influence even more harmful: science intended to advance some political agenda. In this situation, the result harms not only the science through the contamination of research, but also harms society as a whole, for public policy could then be based on bad or incomplete information.

Unfortunately, there is a lack of evidence regarding measures where political criteria were used to judge or control. However, the following is one example of political influence in science: “In 1980, an organization called California Rural Legal Assistant (CRLA) sued the University of California, alleging that its research on farm mechanization had the effect of displacing farm workers and was an unlawful expenditure of public funds.” This lawsuit established the precedent that any research that undertook labor-saving devices could be brought to court. The ruling stated that before it embarks on any research, the University must reveal in advance that it will give primary consideration to certain interests. In other words, the court established a precedent that the government can stop publicly-funded science for political reasons.

The scientific knowledge produced in this nation’s universities and laboratories is a key to the technology essential to both economic and military power. As the government tightens controls on scientific research and findings, the public’s enthusiasm to know and the media’s enthusiasm to report certain truths renews (i.e. the existence of global warming). This in turn has provided opportunity for scientists to respond to private profit rather than to social need: if government funds are restricted but researchers’ passions remain, scientists will move to venture capitalists or other private investors for research funding capital.

Therefore, special interests could distract our nation’s scientific talent to private curiosities and focus efforts away from researching other issues, such as ways to combat epidemics, whose unknown answers are potentially detrimental to our society.

**Political Censorship of Public Scientific Research through Revision**

Politicians also transform original scientific findings to conform to the politics of government policy by revising and editing publicly funded scientific publications. Even though the government may initially authorize research, original, un-biased findings may be unavailable to the public if the results do not satisfy government officials. For the purpose of this paper, revision is editing through altering, adapting or refining, and the terms “revising” and “editing” will be used interchangeably from this point onward. The following examples illustrate through global warming, disparities in healthcare, and over-the-counter contraception the ways in which the government uses revision and distortion to manipulate science in order to advance its agenda.

**Climate Change**

Every year the Climate Change Science Program (CCSP) issues a report which includes data on global warming. From 2001 to 2005 Phillip Cooney, former Chief of Staff for the White
House Council on Environmental Quality (CEQ), was responsible for editing the reports. Although Cooney lacked formal scientific education, he routinely edited reports prepared by government scientists prior to publication. In 2002, Cooney ordered an estimated 650 changes to the original text of the annual CCSP report on global warming.\textsuperscript{11} Although the unedited version stated, “Many scientific observations indicate that the Earth is undergoing a period of relatively rapid change,” Cooney’s edited report read, “Many scientific observations point to the conclusion that the Earth may be undergoing a period of relatively rapid change.”\textsuperscript{12} At the end of this section is an example from the aforementioned report which displays both the original narratives and the revisions. Cooney not only deleted text, but also heavily edited the report by inserting words like may be, could, and possible in order to dilute the research evidence in support of global warming (See Figure 1.0).

Although the abovementioned case may represent an isolated incident, the following examples demonstrate that altering government reports involves a pattern of systematic editing. For example, in 2003 the Environmental Protection Agency (EPA) drafted a Report on the Environment, which referenced a U.S. National Academy of Science (NAS) review on climate change. Initially requested by the White House, the NAS report intended to confirm findings released by the Intergovernmental Panel on Climate Change (IPCC) of the United Nations (UN). The NAS review supported the IPCC’s finding that human activities significantly contribute to global warming. However, despite the legitimate corroborating evidence, top U.S. government officials commanded the EPA to remove any reference to the NAS findings and instead required the agency to use a study on temperature records sponsored in part by the American Petroleum Institute.\textsuperscript{13}

The two previously described incidents demonstrate that the government is not interested in scientific reports that find climate change that is occurring and anthropogenic, but instead seeks to dilute and undermine the scientific evidence supporting such findings. Further evidence comes from James E. Hansen, director of NASA’s Goddard Institute for Space Studies. Hansen states, “In my more than three decades of government, I have never seen anything approaching the degree to which information flow from scientists to the public has been screened and controlled as it is now.”\textsuperscript{14} Hansen’s comment confirms and emphasizes that science is not independent of politics, but rather frequently manipulated by them.
Information on global warming is not the only subject distorted by the government. In 2003, the Agency for Healthcare Research and Quality (AHRQ) published the *National Healthcare Disparities Report*. Requested by Congress, it provided information on the differences in health care quality based on patients’ “race, ethnicity, income, education and place of residence.” The following examples were deleted entirely from the initial report in favor of “milder” examples:

- Minorities are more likely to be diagnosed with late-stage breast cancer and colorectal cancer compared with whites;
- Patients of lower socioeconomic position are less likely to receive recommended diabetic services and more likely to be hospitalized for diabetes and its complications;
- Many racial and ethnic minorities and persons of lower socioeconomic position are more likely to die from HIV; And
- The use of physical restraints in nursing homes is higher among Hispanics and Asian/Pacific Islanders compared with non-Hispanic whites.

The original report, leaked to the public, stated, “Inequality in quality persists.” However, the edited-for-publication report stated, “Americans have an exceptional quality of healthcare; but some socioeconomic, racial, ethnic, and geographic differences exist.” By removing blame for unequal treatment from the healthcare provider, the edited report indirectly supports the national healthcare system by lessening the blow from the AHRQ findings. This example demonstrates how revision can drastically alter the impact of primary research altering its meaning.

**Plan B**

Mechanical editing aside, the government also factors politics into science by making decisions contrary to scientific research. Consider the case of Plan B, an emergency contraceptive which meets the scientific criteria for an over-the-counter (OTC) drug: “it is not toxic, there is no potential for addiction or abuse, and there is no need for medical screening.” Scientists and two independent advisory committees of the Food and Drug Administration (FDA) suggested and voted to make Plan B an OTC contraceptive. Despite the scientific findings, Dr. Galson, former director of the FDA, overruled the vote to make Plan B an OTC. In response, Paul Blumenthal, a respected doctor at Johns Hopkins Hospital in Baltimore, commented that the FDA’s decision is “nothing more than an example in which politics trump science.” As the previous examples demonstrate, the government has systematically combined politics with “science” from Plan B to reports on global warming.

**Political Censorship of Scientific Research through Over-Classification**

With the increased tendency to monitor publication of scientific research after 9-11, the once relatively explicit justifications for controlling publication through classification prior to 2001 have evolved into a more ambiguous and less defined system of controlling scientific publication. The contemporary system of publication characterizes some scientific research as “sensitive, but unclassified.” Unfortunately, the debate over the definition of “sensitive, but
"unclassified" continues without a broad consensus as scientific and governmental agencies grapple with establishing a consistent approach to controlling potentially damaging information.

On the most literal level, the involvement of politics in the publication of scientific research has historically limited scientific knowledge through classification to some extent. However, as mentioned, most agree that some research warrants classification—usually, secret government-funded weapons defense programs not involving the private science sector. Yet, it appears that post-9/11, deregulation of controls on government power and of discretion in controlling publication provides an unchecked and nearly constraint-free opportunity for political policy to impair the propagation of general scientific information. This occurs as high-ranking government policy makers and powerful agencies can now technically title any information as “sensitive” without furnishing public justification.

Despite the previous lack of public justification requirements for classification and restraints on publication, classification pre-9-11 largely involved relatively conservative use in the most necessary of circumstances, and federal policy maintained the position that “fundamental research should remain unrestricted” and classified only in a “rare case.” In addition, the classification of information to prevent its publication almost exclusively involved government-funded and/or government agency-performed research, as private agencies largely did not perform extremely sensitive research to begin with. While pre-9-11 classification standards were generally agreed upon, many scholars now argue that post-9/11, the distinction between government research and private research is shrinking due to increased monitoring and a heightened potential for classification.

In contrast to the historically used routines for classification, scientific information developed for publication in the private sector is under the increasing threat of potential arbitrary classification due to “sensitive” subject content. Policy attempting to advance a political agenda could potentially force private interests to fear publication controls and to consider censoring research to receive publication approval. In essence, research stretching beyond traditionally classified themes can cause scientific agencies, both public and private, to enact controls and to exercise increased discretion and “self-regulation” in publication.

Although private screening may not appear to negatively impact scientific review, the systematic self-censorship of research in such fields as genetics, virology, and vaccinations threatens to limit publication of unbiased, scientific truth on the preface of a “potential” for delinquent misuse and could lead to a subsequent rise in researchers who censor their papers to avoid publication rejection. Recall that it appears that this potential for delinquent misuse may warrant information as “sensitive,” an undefined term vulnerable to use for the development of political agendas. For example, scientific societies such as the American Society for Microbiology advocate the empowerment of journal editors to “screen, review, and reject research papers on the basis of their weapons potential,” or their potential for ethical dilemma or harmful misuse, in an effort to abet concerns of federal government involvement and classification of papers on a “need-to-know” basis.

As the “conduct of science and the composition of the scientific community have become increasingly international,” more limitations on scientific research involve various consequences, both domestic and abroad. Principally, decreased publication may cause a shrinking level of general knowledge in the private scientific community. This lack of information, or access to unbiased research, threatens to perpetuate errors as research would be unchallenged by other scientists, threatens to spread bias resulting from only one perspective, and threatens to cause a general stagnation of research development.

Limiting scientific knowledge also results in a dilemma between the freedoms of scientific information for the advancement of humanity and between the policy interests of government and scientific agencies. By constraining research publications on a broader scale,
less developed countries that depend on U.S. research may lose access to science beneficial to improving, researching and practicing medicine. Further, parties that may desire “sensitive” research to inflict harm and destruction will almost certainly continue to research and to scheme using other scientific resources. Finally, although the government declares some research “sensitive” based on speculation of potential misuse, one may also speculate that decreased research and increased control of scientific publication on a vast scale may prohibit us from researching methods of combating the weapons the very publication controls attempt to prevent.

Ethical Implications of Interaction between Politics and Science

To better analyze the current dilemmas among politics and scientific research, a discussion of the Utilitarian, Deontological and Virtue ethical frameworks should help determine if the current relationship between politics and science should change. First, the Utilitarian perspective applies to all three scenarios. This theory maintains that actions should be judged right or wrong on the basis of their consequences. The ethical action brings the greatest good to the greatest amount of people. As soon explained, Utilitarianism presents a strong argument for redefining the role of politics in science. A second theory, Deontological ethics, states that some acts are inherently morally wrong on face value. For example, lying is morally wrong because deception is wrong. Finally, the theory of Virtue ethics is applied, which considers an action to be right if it is what a virtuous agent would do in similar circumstances. In other words, all people should strive to be the ideal human being and should act accordingly. Also, the Virtue ethical framework applies to issues of scientific independence from political interests in funding, revision, and publication. One can be independent in fact and independent in appearance. Independence in fact implies no relationship between politics and science, whereas independence in appearance involves a relationship between politics and science that does not seem to present any special treatment or biases. Finally these ethical theories should suggest recommendations for a more ethical relationship between politics and science.

Violation of Ethical Principles through Funds Allocation

After distinguishing the connections between scientific research funding and politics, an analysis of the ethical implications of this relationship will follow. Using the theoretical framework outlined above, the following section intends to discuss how the government acts unethically in its funding scientific research and how the government could potentially finance research more ethically.

Applying the Utilitarian perspective, the current relationship between politics and scientific funding is unethical. Through scientific research, the government acquires knowledge that increases the nation’s general welfare by improving knowledge on issues like medicine and national security. Examples include greater understandings of how to combat biomedical warfare, advancing technologies for defense, and an increased knowledge of safe levels of chemicals, toxins, and emissions for both humans and the atmosphere. If policy bases itself only on scientific evidence, it represents the greatest good for all citizens in both health and in national security. Therefore, scientific research should exist independent from any biases that come from political pressure, as bad information may result in incorrect and biased policy.

Applying the Deontological framework of ethics, the current relationship between politics and funding of scientific research is unethical. Recalling that one of Congress’s duties is to represent the desires of its constituents, consider pork barrel and the aforementioned example regarding the methane emissions study in the Clean Air Act. If no one member in Congress admits to inserting the clause, then the measure must have lacked support by a large number of constituents. Thus, it appears morally wrong, and hence unethical, for Congress to vote and pass measures into laws that do not represent the desires of the people whom the public official represents. Another duty of politicians voted into office is to decide and to debate how
taxpayer dollars are spent. The methane study approved for 19 million taxpayer dollars, dollars that neither taxpayers nor their representatives owned up to.

Applying the Virtue framework of ethics, the current relationship between politics and funding of scientific research is also unethical. With public funding, science is not independent in fact from politics. Pork barrel funding and the approval of projects by government agencies instead of by scientists alone, demonstrate that science is not independent in appearance as well. It is the violation of independence in appearance that presents the ethical dilemma under the virtue perspective. The virtuous person is most likely to make decisions with integrity and objectivity. Lacking independence, scientists are not free from the control or influence of the government and both politicians and scientists are subject to making subjective decisions.

In conclusion, Utilitarian, Deontological and Virtue ethics demonstrate that certain aspects of the current relationship between politics and science research funds allocation are unethical. Under all three of the outlined theories, it appears that there should be greater, if not complete, independence between these two parties in order to avoid the aforementioned dilemmas. The pluralistic approach used to divide funds between researchers should be revisited to ensure that public capital is distributed efficiently and fairly between proposed scientific interests. To limit pork barrel funding, Congress should also install a system of checks and balances to document specifically those who support each section of legislation. Finally, although it should be noted that private funds encompass their own ethical implications, they exceed the scope to this analysis.

Violation of Ethical Principles through Revision of Scientific Publications

After examining the relationship between politics and revision of scientific studies, an analysis of the ethical significance of this relationship will follow. By applying the Utilitarian and Virtue ethical frameworks, this section intends to discuss how the government acts unethically in its revision of scientific research and how the behavior of the present administration towards government scientists and their research could improve ethically.

Based on Utilitarian perspective, the current acts of government revision of science is unethical. Consider the practices of climate change record-keeping. The limited, distorted, and altered reports on global warming may partially justify the government’s lackluster response, but their diluted “findings” do little to encourage the response necessary to curb the climate change that will have, as true evidence proves, an adverse effect on the environment and a detrimental effect on the livelihood of future generations. For instance, the evidence shows that “global warming will reduce mountain glaciers and snow pack in some areas, thereby reducing the availability of water,” one of the most important sources of life. Applying Utilitarian ethics, the government’s attempt to delete such evidence from the reports is more harmful to the world population than the utility corporations and politicians stand to gain by controlling or omitting such evidence. It would be for the greatest good for the reports to have the real evidence on climate change, so that people can have a chance to influence the policy-making process.

Applying the Virtue framework of ethics, editing and revision of scientific information is unethical. If Utilitarian ethics focuses on the behavior of the person performing the act, Virtue theory emphasizes that person’s character. Maintaining that the moral person should be respectful, trustworthy, and honest, when government officials influence the content of the reports and make policies that are not based on science, they directly contradict a virtuous agent’s character. Moreover, the government’s current practices of politically-motivated revision of science threaten scientists’ integrity, one of the key elements of Virtue framework. The public believes in scientists’ integrity and trusts that scientists “honestly collect data and dispassionately analyze it and disseminate it no matter what the implications.” Although in fact most scientists do advance unbiased data, politicians continue to interfere with scientists’
work, to compromise the integrity and the virtue of science, and to delete “honestly collected data” from such reports as the Climate Change Science Program and National Healthcare Disparities Report.

In conclusion, Utilitarian and Virtue ethics reveal that the current interaction between politics and the revision of science to fulfill an agenda is unethical. Through revision and editing of scientific evidence, the government also severely limits the development and the dissemination of knowledge. When information is limited and/or one-sided, the public does not have a chance to make an educated decision about their government’s practices and policies. More severely, politically-motivated revision prevents some research with the potential to positively impact the global community from reaching others.

The unethical behavior and the immoral character of the government in censoring scientific data lead to a chilling effect among the scientists, which causes a “brain drain.” For example, “Many researches now find their work censored by the administration, while others engage in self-censorship as a defense against losing their job. Many other scientists and technical specialists have left government service in despair or protest.” By continuing the current practices of revision, the government encourages scientific culture with no character and intends to breed controlled researchers obedient to political pressures. Such a culture will not create the circumstances necessary to help the nation and the world to develop and grow through science.

Finally, although the government does not have to base its policies solely on scientific facts, it is logical that unbiased scientific information should exist for the sake of efficient and effective decision-making. Therefore, the current publishing process of scientific findings should change to allow independence in fact and in appearance from political influence. Editing of scientific reports should continue, but in a different manner. Revision should include editing for mere grammar and structure, but should not involve the alteration of scientific facts in favor of political agendas. Further, only scientists or people with a scientific background should decide which information represents an unbiased fact and which represents an uncertain or an unconfirmed statement. In summary, the current relationship between politics and the revision of science should change to eliminate political bias and to encourage the dissemination of more objective scientific research.

Violation of Ethical Principles through Over-Classification of Scientific Research

After analyzing the relationship between scientific research and publication of that research, the ethical significance of this interaction will follow. Realizing that publication of scientific research increasingly involves political influence, the true ethical implications of broader censorship and more constraints on scientific publications have yet to clearly materialize. Using the previously mentioned ethical frameworks, this section intends to describe how the government acts unethically in its over-classification of scientific research through restricting publication.

Recalling Mill’s Utilitarianism, the current relationship between politics and the publication of scientific research is unethical. The censorship of scientific publications to advance a political agenda of one government or even one nation results in less “good” for the world than the utility achieved in advancing a political agenda or the utility resulting from an immeasurable “increase” in domestic security. For example, consider how the government restricts publication of research on virology, a science with the potential to develop vaccinations for some of the world’s most lethal diseases. Although one may attempt to counter this ethical judgment by stating that the good of oneself and one’s nation supersedes that of others not part of a society, Mill and most ethicists maintain any single individual is equal to all other single individuals.
Applying the Virtue framework of ethics, the current relationship between politics and scientific publication is unethical. As most virtuous persons intending to uphold a standard of ethically justifiable actions would advocate the separation of politics and scientific publication, the potential for misuse by those attempting to advance a specific political agenda by restricting publication act unethically. Although one may argue that the government attempts and intends to act virtuously by politically controlling publication to prevent potential misuse of information, such as biochemical research, the virtuous agent should value more the rationale that one political party should not make the decision for everyone with access scientific information.

In conclusion, Utilitarian and Virtue ethics demonstrate that the current interaction between politics and restraints on the publication of scientific research is unethical. It appears that politics and scientific publications should be more autonomous and independent. Due to the current potential for over-classification of scientific research in publications by political interests, without separation of science and politics the development and the dissemination of knowledge are limited by bias. This limitation of knowledge implies that over-classification may prevent scientists from exploring controversial subjects out of fear of retribution of being refused for publication.

Conclusion

Recalling George H.W. Bush’s 1992 statement that government relies on “freedom of inquiry” and “objectivity,” the entrance of politics in science appears to limit scientific knowledge and development and to present several ethical dilemmas. As explained, the current unethical relationship between politics and science presents the need for greater separation and increased independence of these parties. With the recent manifest of new and more pervasive forms of political involvement in science, such as the term “sensitive,” as acceptable justification for classification and censorship—whether through funding, editing, or publication controls—the trend toward more comprehensive political influence in science is alarming. Freedom of information, independence of research, and the absence of bias represent the most ethically-sound support for separating politics and science. Although national security and other concerns must be addressed in order to avoid increasingly morally-questionable corruption of science, the public should consider the issues presented and should evaluate the balance between “freedom of inquiry” and politics and vote accordingly.

Work Cited


