

Preface to a Democratic Theory of Science: The Right to Research

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Introduction

This paper is the first small step in a long-term effort to develop a politically, institutionally, and philosophically sophisticated argument for the greater democratization of the technoscientific enterprise. The initial inspiration for this argument is Robert Dahl's *A Preface to Economic Democracy* (1985), which takes up Tocqueville's discussion in *Democracy in America* of the conflict between equality and liberty. We intend to reframe Dahl's argument to examine the relationship of equality and scientific, rather than economic, liberty.

The tradition of analogizing between economics and science (or even substituting the latter for the former) is a venerable one in science and technology studies.¹ Moreover, a very large body of scholarship from diverse perspectives engages the substantial intersection between scientific and economic behavior.² Such work provides a backdrop for our inquiry. The setting for our inquiry is provided by an array of recent public controversies around the so-called politicization of science in the United States. Our research will explore the possibility that these controversies represent an example of the conflict between equality and liberty as framed by Tocqueville and, likely, as exacerbated by the corporate capitalism that he did not foresee but that Dahl finds critical in derailing Tocqueville's view of equality.

The principal focus of our early inquiry, however, will be delineating an argument about the applicability of democratic tenets to science and the concept of a "right to research." The idea of a right to research has recently gained prominence in debates over stem cell research. The California stem cell initiative, passed by California voters in November 2004, proclaimed a right under the state constitution to do stem cell research. After discussing the current context of the politicization of science and specific claims to a "right to research," the paper will analyze the

supposed right from two directions: First, it will examine rights in the context of research, looking at the history of the modern concept of rights, competing visions of what rights are, and analogies between research rights and property (or economic) rights. We will argue that the concept of rights makes most sense when understood in part as a claim about civic membership. Thus, recognizing a “right to research” may actually serve to embed science more firmly and explicitly within society, rather than to shelter science from society, as has generally been the aim of proponents of a right to research. Second, the paper will examine research in the context of rights, looking at the role of free inquiry in democratic societies and about the relationships among inquiry, research, and science. We will argue that inquiry is supported by a right, but the larger concept of science is not, even though it may be a good that can be argued for within the context of a democratic process established by rights.

The Politicization of Science and the Right to Research

One would be hard-pressed to construct an appropriate history of the politicization of science, as modern politics and modern science have been intertwined from their very beginnings in the English Enlightenment (Shapin and Schaffer 1985). Their relationship has often been a mutually productive one, as both the state and the civil society shaped by the liberal politics that emerged from the Enlightenment have supported science materially and ideologically, just as science has supported liberalism materially and ideologically (Ezrahi 1990). To be sure, there have been political abuses of science by illiberal regimes (Macrakis 1993; Proctor 1999; 1988; Graham 1993; 1987). These examples have only reinforced the belief in a fundamental compatibility between the norms of science and liberal democracy (e.g. Merton 1942) and, to

some, serve as an admonition against the intrusion of any politics into the autonomy of science (e.g., Gross and Levitt 1994).

There have, of course, also been conflicts between politics and science in liberal regimes. Tocqueville observed in the early American Republic that, while the applied and industrial arts and sciences flourished, the practical turn of mind and the tendency toward social conformism fostered by the equality of democracy threatened to suppress the spirit of inquiry for its own sake. Later in the 19th Century, however, the “pure science ideal” emerged (Daniels 1971), science began to professionalize, the state to bureaucratize, and the governing Progressive ideology found more in science to its liking. Even after the post-World War II creation of a full-fledged partnership between science and the American state – what some would call the social contract for science – conflicts about ideology, agendas, and accountability arose (Guston 2000). The early- and mid-1970s were a time of particular foment on the “limits of scientific inquiry” regarding human subjects research, recombinant DNA technologies, and race-based inquiries (Holton and Morison 1979).

The current allegations of the politicization of science were initially brought to the agenda by US Representative Henry Waxman (D-MA), who reported on instances of the Bush administration’s manipulating representation on advisory committees, changing text in science policy reports, and taking action against government scientists in order to keep close ranks between its previously staked out political positions and public information about the underlying science (US House 2003). The Union of Concerned Scientists expanded this inquiry and put a more neutral gloss on it by issuing a report and letter from a bi-partisan (but still left-leaning) group of scientists (UCS 2004a; 2004b). The issue showed surprisingly sturdy legs, as popular press picked it up from the scientific press, and it even entered the 2004 Presidential campaign in

the form of the debate over stem cells (Mooney 2005). It has been in this context of debate about the politicization of science that recent advocates and critics of a right to research have staked their claims (Alexander 2004; Smith 2004).

Rights in the Context of Research

The word “right” derives from Latin *rectus* (straight). Historians disagree about the origins of the concept of rights, but it seems that until the early modern period, the term was used primarily with reference to an objective standard of conduct. To do something “rightly” meant to do it according to such a standard. By the seventeenth century, the term had come to refer not to something *being* right but to the notion that people *have* rights. This shift has been characterized as one from an “objective” to a “subjective” conception of rights (Dagger 1989). The idea of doing something that *is* right changed into the idea of doing something because one *has* a right to do it. What is “right” came to refer not to conformity with an order of things external to the individual but to a notion of property in oneself that offers protection from the social order. The idea of self-possession was taken to imply rights to life, liberty, bodily safety, speech, religion, etc., without which the fundamental idea of property in oneself would be meaningless.

This notion of rights as individual protections against society and the state played a key role in the struggle against absolutism and the rise of liberal democracy in the seventeenth and eighteenth centuries. But as the task shifted from establishing to maintaining democracy, the notion of individual rights as defenses against society and the state came into conflict with an alternative conception of rights as claims to civic membership. The modern idea of individual rights had always acquired its moral force from its association with the idea of human equality.

That is, my claim to have a right to something is only persuasive if I recognize that you are entitled to make the same claim. Masters do not demand that slaves recognize their rights, and the slave who demands his rights asserts his equality with the masters. In this respect, the phrase “equal rights” is redundant (Barber 2000: 83).

In practice, of course, early rights claims were only recognized for an elite, and the conceptual process whereby rights were extended beyond the initial circle of propertied white males is instructive. It did not involve a gradual assimilation of women, blacks, and other excluded groups into the category of “human beings,” for elites had generally considered members of excluded groups “human” but still found it acceptable to deny them the rights with which all human beings were supposedly endowed. The rights of excluded groups were gradually realized, rather, as part of their acquiring the status of equal citizenship (Shklar 1991). Thus it was only the particularistic language of the 15th and 19th Amendments to the US Constitution—forbidding the denial of voting rights on the basis of the particular categories of race and sex, respectively—that realized the promise of the abstract language of the 14th Amendment, which offered only a universal guarantee of due process and equal protection of the law (Barber 2000: 60-78). Although rights have often been conceived as “universal” and “natural” protections of individual liberty, in practice they have acquired their force only in the context of concrete struggles for social equality.

This social dimension of rights, always implicit but long subordinate to the individual dimension, appears more explicitly in the language of “human rights,” which during the twentieth century largely replaced the older language of natural rights. Whereas natural rights were based on an ideal of self-possession, formulations of human rights tend to be grounded in a vision of self-fulfillment. The United Nations Declaration of Human Rights thus includes,

alongside the older protections, rights to education, work, healthcare, leisure, parental autonomy, and a fulfilling childhood. Natural rights protected the minimal things that people should have (life, liberty, bodily safety, etc.), but recent formulations of human rights aim to facilitate the quest for things that people (presumably, and controversially) want to be (Dagger 1989). Recent conceptions of rights thus not only accentuate the social over the individual dimension of rights but also seek to incorporate aspirations for a good life rather than merely the protection of a minimally acceptable life.

This is not to say that individualist-protective conceptions of rights have declined—on the contrary. It is today as common as ever for people to make rights claims—“I’ve got my rights!”—that assume a view of rights as individual possessions rather than claims to civic membership. The prevailing tendency is to use rights claims to draw boundaries between individuals and society, often without recognizing the political obligations upon which a democratic society depends.

Recent claims for a “right to research” have usually been phrased in this individualist-protective language. Last year’s declaration of a “right to conduct stem cell research” in California’s Proposition 71, for example, was explicitly conceived as part of a larger strategy to depoliticize stem cell research. In addition to providing \$3 billion in state bonds for stem cell research, Prop. 71 exempted the California Institute for Regenerative Medicine (created by the proposition) from conflict-of-interest and open meetings laws, and it stipulated that the proposition’s provisions could not be changed by the State Legislature for three years, and then only by a 70 percent vote in both houses. Just as the US Bill of Rights protects various civil and religious freedoms, Prop. 71 sought to protect science from political interference (Brown and Daneshi 2005).

The impending failure of this depoliticization strategy—Prop. 71 is being challenged by two lawsuits, and there appears to be strong support for a state constitutional amendment to require greater transparency and accountability at the stem cell institute—suggests that California’s research right has gone wrong. The above discussion suggests that part of the reason may reside in the limited conception of rights with which proponents of a right to research have defended their claims. Just as seventeenth-century defenders of private property rights had in mind not a general “right to property” but rather the rights of the propertied, proponents of research rights seem to be thinking not of a general “right to do research” but merely of the rights of researchers. By thus limiting the generalizability of their claim, thereby also neglecting the historical and logical connection of rights with equality, they limit its moral force. To a certain extent, this limited applicability of a right to research—anyone can own property, but not anyone can be a scientist—would seem to present an insuperable obstacle to the establishment of a right to research.

There may, however, be a more persuasive way to think about a right to research. Here it is useful to consider: Just what is the question to which a right to do research is the answer? One question is about the proper relation between science and politics, and between scientists and citizens. A right to research conceived as an individual protection answers this question by drawing a philosophical boundary between science and politics, asserting the existence of a quasi-private sphere within which the political community has no jurisdiction. If a right to research were conceived on the social-aspirational model discussed above, however, a right to research might be conceived as a claim for the inclusion of science—and the intellectual and practical aspirations of individual scientists—within the political community. The fact that not everyone is a scientist poses less of an obstacle for this model, because the claim for “special

protection” for scientists would be made in the context of a recognition that other groups may also require special protection—e.g., parents, children, women, gays, the elderly, etc. Non-scientists are also more likely to accept the notion of a right to do research if it is explicitly coupled with an acknowledgment that the preservation of this right depends on scientists’ fulfilling its corresponding obligations. Unless scientists begin to see themselves more explicitly as part of society, and their rights-claims as claims to membership in that society, non-scientists have little reason to grant them the autonomy (and the public funding) they desire.

Research in the Context of Rights

In parallel to the development of a theory of rights in the context of research, we also ought to develop a theory of research in the context of rights. Dahl (pp. 21-22) provides a starting point, writing that “we can probably agree that fundamental political rights would include the right to vote, to free speech, to free inquiry, the right to seek and hold public office, and to free, fair, and moderately frequent elections; and the right to form political associations.” There are two questions here relevant to our inquiry: What is a fundamental political right? And of what does such a right to free inquiry consist?

Dahl’s theory of “fundamental” or “primary political rights” (p. 25) holds that “if people are entitled to govern themselves, then citizens are also entitled to all the rights that are necessary in order for them to govern themselves.” He contrasts this view with the theory of prior rights (p. 24), which holds that such political rights are anterior to democracy and therefore superior to it, providing a brake on what democratic decisions can do. The theory of prior rights is closely associated with the idea that rights derive from natural law or God’s law and, as such, are not

accessible to human law. They are thus, as Dahl (p. 25) writes, rights to be used “*against* the democratic process” (emphasis in the original), rather than rights that are necessary to the democratic process itself. As argued above, the claim to rights in Prop. 71 is of the former rather than the latter type. Because the theory of prior rights depends on a philosophical rather than political justification, it lends itself more readily to the individualist-protective dimension of rights than to the social-aspirational dimension.

Although there is clear precedent for understanding fundamental political rights in the American context as prior in this sense—e.g., the influence of natural rights thinkers on the Founders, or the language of the Declaration of Independence that such rights are an endowment from a Creator—the Constitution offers no such sense of their priority, nor does the balance of the history of their interpretation by US courts. Moreover, even the Founders arguably conceived rights in distinctly pragmatic terms, emphasizing not the philosophical justification for natural rights but their political recognition by a particular community, as suggested by the Declaration’s phrase, “*we hold* these truths to be self-evident” (Arendt 1968: 246). Similarly, because the then-emerging “American” political community constituted its very identity in part through the recognition of “natural rights,” assuming that these rights were somehow prior to the political community arguably puts the cart before the horse.

There are a variety of rationales for including “inquiry” in the scope of fundamental (rather than prior) political rights. Democracy requires a citizenry informed about any number of topics, including those related to understanding democratic activities (e.g., who are my representatives and what actions have they taken on my behalf?), those related to the formation of preferences (e.g., what conditions exist in the world and how do other people feel and reason about them?), and those related to substantive outcomes of government activities (e.g., what is

the causal connection between what actions my representatives have taken on my behalf and the preferences I have for how things should be?). If citizens were not free to conduct such inquiries, the act of voting, for example, would be rendered as useless as if there were only one candidate on the ballot.

Inquiry as a social activity also supports democracy, in that it contributes to a robust and pluralistic civil society. Inquiry can also become economically productive and thus contribute to the material conditions that democracy may require, a point recognized in the patent clause of the US Constitution. Particularly in combination with other fundamental rights like association, the right to inquiry allows groups of people to understand how they may pursue their own interests or visions of the good in society.

The right to inquiry is even necessary to support law-abiding conduct on the part of both citizens and the state. For example, although the concept of “notice” is embedded in our understanding of due process—that is, laws and their sanctions must be publicly available to those who may be held to their strictures—the state expects that citizens will make reasonable inquiries into the existence of such laws that may pertain to them. In the liberal image of democracy associated with modern science, where the citizen is a “modest witness” analogous to the laboratory experimentalist, ignorance is no excuse (Ezrahi 1990: 87-89). Similarly, the concept of discovery is embedded in our understanding of criminal and civil law. In the former, defendants against the power of the state have the right to inquire about the nature of the charges and the evidence against them and to conduct independent investigations into the charges and evidence. In the United States after the *Gideon* decision, this right is such that it is even incumbent upon the state to provide the resources of an expert to make such inquiries.

This discussion suggests very strongly that Dahl has good reason to include a right to inquiry in any list of fundamental political rights, and that such a right is plausible in the contemporary understanding of rights in the United States.³ But Dahl does not speak to the extent or content of the right to inquiry, that is, what activities must be included in free inquiry, what are the boundaries of such activities, and what priority does inquiry have when—as it might—it runs up against other rights. For example, while it may be the case that the state has an obligation to protect and even support a citizen’s right to inquiry in situations in which the citizen is accused of a crime or desires information about the actions of public officials, does the state have an obligation to protect or support other types of inquiry, e.g. into the origins of the universe or the functions of stem cells?

If it is the case that rights are best understood from a social-aspirational perspective, and that the right to inquiry is important because of the ways that it supports democratic governance and democratic aspirations, then it follows that those inquiries that best support democratic goals have the strongest claim to protection and support. That is, the right to inquiry is stronger when the inquiry makes a distinct contribution to democratic processes than when it does not. Protection of the freedom of the press, as recognized in interpretations of the First Amendment, supports this conclusion, as a free press is critical to many of the informational processes necessary to democracy. Indeed, journalistic inquiry may be the paradigmatic example of such an inquiry, given priority because of its civic dimension (Lewis 1991). Because the right to inquiry is predicated on the importance of inquiry for democratic governance, the extent of the right to inquiry is measured by democracy’s yardstick.

With respect to content, it seems obvious that inquiries that have as their object or substantive focus issues of politics—particularly the kinds of questions related to democratic

activities, the formation of preferences, and the substantive outcomes of government activities described above – would have priority over inquiries that were not so framed. This is not to say that other inquiries are without merit or should go without protection or support; rather, it is to acknowledge what the courts have tended to do with speech and press anyway, which is to create a hierarchy which, for example, prefers political speech and publication to commercial speech and publication, and both to pornography. This line of argument leads to the surprising conclusion (or perhaps not so surprising, given the affiliations of this paper’s authors!) that political science and related disciplines have a stronger claim than the natural sciences to a right to research.

At this point it might be helpful to distinguish between goods that 1) are integral to the democratic process (freedom of speech and assembly), 2) are a precondition for it (public safety), and 3) may foster democracy but are not an integral part of it (the arts and sciences). The third sort of goods are less vitally deserving of protection than the first two sorts, because any restrictions on the first two sorts are difficult to revise, since such restrictions limit the process of revision itself (Dahl 1989: chap. 12). Nonetheless, it is not difficult to think of ways that the sciences potentially foster democracy, and thus, to construe them as activities to which those who wish to engage in them might have a right to do so. Social-scientific knowledge may be used in the design of democratic procedures, for example, and natural scientific knowledge may provide vital information for effectively addressing social problems. If democracy is conceived as a mode of collective problem solving, then some areas of scientific research might be deemed not only supportive but integral to democracy. Scientific research that does not fit into any of these three categories may well be worth doing and even worthy of public support—just for

curiosity's sake, for example—but there does not seem to be a strong case for recognizing a right to it.

Conclusion

We have in this paper set out a very initial argument about a right to research. Our two primary conclusions – however tentative and not fully elaborated – are, first, that claims such as Prop. 71 to a right to do stem cell research are inappropriately framed as rights against the democratic process rather than in support of it and, second, that although a right to inquiry is defensible as a fundamental political right, its strength and priority depends on the civic dimension of the inquiry. From these conclusions we expect to be able to argue that a social-aspirational model of the right to research, coupled with a well-protected, civic-oriented inquiry provides a strong foundation for more extended arguments about the democratization of science.

Again, the purpose of this paper has been preliminary and exploratory – to scope out an argument about a right to research. In addition to these two tentative conclusions, this scoping suggests to us a number of additional topics of inquiry. We have, for example, studiously avoided complicating the nature of “inquiry” and its relationship to “research” and “science.” Part of the reason for this calculated avoidance is the traditional distaste in the social studies of science for imposing distinctions from the perspective of the analyst (Gieryn 1999). Part of it is the easy confluence of the three concepts in the extant literature.

But a third part of it also has to do with analogies to freedom of the press, in which distinctions among speech, publication, and associated activities (like inquiry, investigation, etc.) are implicated. There is a notable literature on analogies between First Amendment freedoms

and a right to research which we will further explore. Nevertheless, the process of journalistic inquiry and publication is usually distinct from the process of scientific inquiry and publication with which we are concerned, and we expect that our argument for the priority of civic inquiry will influence how this analogy holds.

We also expect to explore analogies to property and economic rights, not least because of the larger framing of our project but also because the public funding of, and thus restrictions on, research has become a particular issue. Although it seems like a legitimate, but arguably unwise, application of the “golden rule of arts and sciences” that federal government can attach strings, including significant restrictions, to research funding because such funding is by law a discretionary act, it is possible that similar restrictions on the privately funded activities of researchers may not be similarly legitimate, e.g., that they may constitute a “taking” or an invasion of a property interest. Our inquiry will therefore extend to questions of property, e.g., what property rights might people have in scientific inquiries, materials, and equipment, and what kind of property right (use, disposal, exclusion, etc.) would a right to experiment with such materials and equipment be?

We should add, however, that our exploration of analogies in other rights and freedoms will not be intended to create a constitutional or jurisprudential demonstration regarding a right to research. Rather, we will continue to look primarily at the political issues, in two senses. First, we are interested in the links between the idea of a right to research and broad political issues and structures (like democracy, citizenship, etc.). Second, we are interested in the political motivations, strategies, and goals associated with the right to research and the importance of making a political argument, plausibly comprehensible and acceptable in public discussion.

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Notes

¹ Such literature includes Merton's exploration of the scientific version of Weber's Protestant ethic (see Cohen 1990), Polanyi's "invisible hand" rationale for the "Republic of Science" (Polanyi 1962), and Latour and Woolgar's microeconomic description of the exchanges within the scientific community's "credibility cycle" (Latour and Woolgar 1979). Still more recent studies have harkened back to pre-market economic phenomena, e.g., the promotion of the "agora" for discussing science, rather than for engaging in commercial behavior (Novotny et al. 2001).

² Such work ranges across scales from studies of academic capitalism (Slaughter and Leslie 1997; Slaughter and Rhoads 2004) to the research program of the "triple helix" sub-system (Etzkowitz and Leydesdorff 1997) to national innovation systems themselves (Lundvall 1992; Nelson 1993).

³ *Griswold* (381 U.S. 479 (1965)) also articulates a right to inquiry as one under the "penumbra" of First Amendment rights: "The right of freedom of speech and press includes not only the right to utter or to print, but the right to distribute, the right to receive, the right to read and freedom of inquiry, freedom of thought, and freedom to teach - indeed the freedom of the entire university community. Without those peripheral rights the specific rights would be less secure" (references omitted).