

UNIVERSITIES AT RISK

HOW POLITICS, SPECIAL INTERESTS, AND
CORPORATIZATION THREATEN ACADEMIC INTEGRITY

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WHEN SPONSORED RESEARCH FAILS THE ADMISSIONS TEST: A NORMATIVE FRAMEWORK

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INTRODUCTION

Whenever the topic of dubious sources of external funding was raised in conversation, a former president at my university was known to have replied, "The only problem with tainted research funding is there t'aint enough of it." It is a curious statement by the president of a distinguished university, who, among other things, is the steward of the university's endowment, the torchbearer of its mission, and the moral placeholder of its values. This was also the same president who defended the university's policy against accepting grants or contracts for weapons research.

Like many other academic institutions, Tufts University has, on occasion, debated issues related to the ethics of sponsored research. Controversies have erupted over whether individual faculty or institutional policy should prevail in deciding whether sponsored research was acceptable to the institution. The individual researcher and his/her own institution are in a symbiotic relationship with respect to research funding. Sponsored research is awarded to the institution with the understanding that an individual faculty member, who is usually called the principal investigator (PI), is the responsible party to whom the research award is designated. If the PI changes institutional affiliation, frequently arrangements are made to transfer the sponsored

funding to the PI's new institutional home. The PI works within a set of norms that have been incorporated into the university's bylaws and policies. Some of these norms are unique to the institution, while others are based on federal mandates and are, therefore, uniform across all institutions that receive federal support. Within the context of university sponsored research, I shall examine the following normative questions:

- Should universities be selective in approving grants or contracts applied for by individual faculty on the basis of ethical considerations?
- Is it acceptable, and if so, on what grounds, for university administrators to restrict grants or contracts sought by individual faculty based on a particular type of research activity?
- Is it acceptable, and if so, on what grounds, for university administrators to restrict grants or contracts sought by individual faculty based solely on the types of products manufactured by, or the business sector classification of, the sponsoring organization?
- Is it acceptable, and if so, on what grounds, for university administrators to restrict grants or contracts sought by individual faculty merely on the relationship of the investigator to the sponsoring organization?
- What rules of governance are appropriate in deciding which funding is or is not appropriate?
- What, if any, litmus tests can be used by university administrators for setting standards of acceptable research sponsorship without undermining the idea of a free and open university?

In this chapter I shall address these questions by first developing a framework that possesses generalizable elements, yet is capable of individuating the answers to specific cases by adapting them to variations in university micro-culture policies on sponsored research. I shall focus my framework on contracts and grants and set aside the issue of the standards for acceptable gifts to the university, which generally do not involve research. Second, I shall apply the framework to several cases where there has been controversy over the ethics of sponsored research.

THE UNIVERSITY'S MULTIPLE PERSONALITIES

Universities are unique institutions in the American landscape. The members of the professoriate have considerable autonomy relative to other professions, as characterized by what we teach, the types of research we do, and in our freedom to write and speak without having to meet a litmus test of the institution. And while all universities strive for the three major goals of education, research, and service, there is little homogeneity in the balance given to these goals. Within the research mission, universities express their goals quite differently. Even within the same institution, the concept of research takes different forms. I have previously described this as the university's multiple personalities.¹⁰⁴

The four archetypal personalities or models that characterize university research are the classical, the Baconian, the defence, and the public interest. While universities have research portfolios representing each of these personalities or models, the weight of funding in any of these categories can affect a university's normative policies on acceptable sponsored research. According to the classical personality — identified with the phrase "knowledge is virtue" — research is organized around the attainment of knowledge for its own sake. Inquiry is internally driven by faculty, as captured by the expression "investigator-initiated research." Scientists/scholars adhere to the norms of universal cooperation, free and open communication, and the knowledge commons, where the results of research are freely available for everyone to use.

The Baconian model is described by the expression "knowledge is productivity." (Francis Bacon used the expression "knowledge is power".) The university's role is to provide personnel and intellectual resources to foster economic development. Professional education and corporate-related research is the key to this dimension of the academic mission. The work of the scientist begins with discovery, continues through application, and ends with intellectual property. Universities that emphasize the Baconian personality are typically more receptive to industrial contracts and corporate partnerships or faculty-corporate liaison programs. The agreements permit compromises on such issues

as sharing of data, sequestered or confidential research, and single-party restrictive licensing of patents. The Baconian model implies that the pursuit of knowledge is not fully realized unless and until it contributes to productivity. As one study notes: "In recent decades universities have added a component of economic development to their missions, accomplished largely through transfer of university technology to existing or new businesses."¹⁰⁵ Therefore, the responsibility of the investigator includes both discovery and technology transfer. The term "translational research" is *au courant* for describing this process.

The "defence" model of the research university is guided by the dictum "knowledge is security." Universities devote their resources to capturing grants and contracts from the defence industry. The micro-norms of the research community adapt to weapons research, anti-terrorism and counter-insurgency studies, spy satellites, and code breaking, to name a few. Often, these projects involve research contracts that are fully or partially classified.

Finally, the public-interest model of science is framed around the aphorism "knowledge is human welfare." The university organizes its research facilities to address major societal problems such as the cure of dread disease, environmental pollution, global climate change, and poverty. Public-interest science is generally more favourable to the idea of the "knowledge commons" on the principle that when knowledge is publicly funded, it should be publicly available. This is the spirit of a bill introduced into Congress titled the Federal Research Public Access Act of 2006, which requires open access to research results funded by the federal government within six months of their first publication.¹⁰⁶ The norms attached to public-interest science can be expected to be different from Baconian and defence science. Traditionally, corporate science has had many more constraints and covenants embedded in its university contracts. As noted by Resnik, "Companies may suppress results, refuse to apply for patents, or keep research under a cloak of secrecy for many years. They may also refuse to share useful tools, resources or techniques."¹⁰⁷

Because academic institutions are not homogeneous in their research personality, they choose a different balance in their research

portfolios, and as a result the norms that define their research programs will vary. The Baconian personality will tolerate more privacy and confidentiality than the classical personality. Within the balance of these multiple personalities, individual researchers are accorded a degree of autonomy. Their autonomy is set against the norms of the institution, which may limit some of their choices. It should also be recognized that institutional factors can also impede faculty autonomy. Faculty can exercise self-censorship on what they study or how they study their field of interest, if they believe it will have a negative effect on tenure or promotion. In the next section I discuss how faculty autonomy can be in conflict with a university's policies on acceptable sponsored research.

RELATIVE AUTONOMY OF FACULTY

Traditionally, faculties in universities decide the research questions they pursue and the grants and contracts they apply for, as well as what results are published and when. These choices are what we refer to as faculty autonomy. Other rights of the faculty include academic freedom, or the right to speak and write on controversial or unpopular subjects, and the right to define the content of a course.

The autonomy of faculty is a privilege associated with tenure, but it is not an absolute privilege. It is largely modulated by two factors: the local university rules and those of government agencies that apply to all federally funded institutions. The federal rules are uniform, although many are merely guidelines for which individual institutions provide local content. In the case of conflict of interest, for example, universities have significant latitude to meet federal compliance standards. Whether strict regulations or flexible guidelines, federal authority sets constraints on scientific autonomy, where autonomy is viewed as "academic libertarianism."

As an example, US federal guidelines on human subjects research has extended informed consent requirements to scholars interviewing other scholars, hardly the intent of protecting vulnerable populations.

Many universities set limits on faculty consulting. If not universal, it must be nearly so that a faculty member cannot simultaneously hold

tenure in two separate institutions. Some universities prohibit faculty from using their names, titles, and university affiliation on product advertisements — but it is certainly not a university-wide norm. No one claims that university faculty as teachers or scholars have absolute autonomy when it comes to academic-business relationships. When Nobel laureate and Harvard professor Walter Gilbert became the CEO of the BioGen Corporation, the university asked that he give up his professorship while he was in the corporate role.¹⁰⁸

For some faculty, keeping the funding flowing is the lifeblood of their academic existence. Without this funding, they cannot support post-docs and technicians in their laboratory. On the other hand, it is the post-docs and technicians that are needed to maintain the flow of external funding and to produce publishable results. Increasingly, medical school faculty depend on external funding for their own salaries. As such, research faculty become small entrepreneurs who sell their research services in the form of grants and contracts to foundations, government agencies, or corporations. It is in the interest of the research faculty to be able to leverage their expertise and research skills to attract funds from any source that is willing and able to fund them. People with abundant sources of funding can be selective; those with fewer choices want the maximum latitude to bring in a grant or contract.

Universities benefit from the overhead that accompanies a grant or contract, regardless of its source. Some university administrators even discourage faculty from applying for funding from sponsors that do not honour the government indirect cost standard. From purely an economic standpoint, universities can benefit by having an open-admission policy for research funding, allowing their faculty to define the parameters of their research, with little or no restrictions on the substance of the grant or contract or the moral standing of the sponsor. But economics, while perhaps a central driving force behind university policies on sponsored research, is not the only consideration. Sponsored research programs are bound by norms other than maximizing cash flows to the university. For example, universities may decide that they will not accept research contracts that require

sequestered student dissertations. When such contracts are opposed, the norm of open science communications trumps the interest in adding more research dollars to the institution. Similarly, universities are increasingly opposed to accepting sponsor control over publication.

Secret covenants that give the sponsor the final approval on publication was the issue behind the Betty Dong case. Professor Dong of the University of California at San Francisco signed a contract that gave the sponsor the ultimate authority for publishing results from the data collected by her research. Left without sufficient resources to take on the company in litigation, Professor Dong withdrew the paper at the eleventh hour from the galleys of the *Journal of the American Medical Association*.¹⁰⁹

Under a libertarian view of faculty, the individual scientist alone decides what the contract conditions are between the faculty and the sponsoring organization. Where libertarian principles prevail in academia, the university is viewed as an enabler that fosters the interests of the autonomous researcher-entrepreneur while providing infrastructure for the research in exchange for overhead charges.

THE COMMUNITARIAN-LIBERTARIAN DIVIDE IN ACADEMIA

Within most universities there is a tenuous balance between communitarian and libertarian tendencies of the faculty. Under communitarian values, a faculty governance process decides on the rules and norms under which research takes place. At best, academic communitarianism functions out of a democratic process prescribed in the formal rules of the faculty governance structure consistent with the powers of the administration and board of trustees. Libertarianism affords faculty all rights not limited by communitarian norms. Thus, if a university has no constraints on faculty outside employment, then it is assumed that faculty may work as many hours as they wish outside the university while meeting their campus obligation.

The balance between communitarianism and libertarianism is calibrated for each institution. There is no reason to believe the balance should be identical across all institutional cultures. We may refer to this as the communitarian-libertarian balance, which speaks directly to the

normative structure of research. The institution may decide that, in the overall interests of the university, some restraints are warranted on the type of grant money accepted. But the story doesn't end there. There are norms which are so deeply at the core of the university's mission and *raison d'être* that their retraction would bring into question whether the institution is still functioning like a university.

META-LEVEL NORMS

Universities share a family resemblance in their educational mission. However, not all institutions that claim to offer teaching and education would be considered universities. Thus, McDonald's has created "Hamburger University," which is only a university through false analogy and appropriated nomenclature. Other entities that use the term "university" are nothing more than diploma mills.

Not all universities can claim to focus on research. But of those that do, the communitarian-libertarian balance at universities helps to explain the diversity of norms guiding sponsored research. While acknowledging variations in the moral yardstick at different research institutions, I propose a second level of norms whose function it is to protect and preserve the unity of core values that capture the family resemblance across the micro-cultures we call universities. I refer to these as meta-level norms for research integrity. These norms should not be contingent on the calibration set for an institution between communitarian and libertarian values, which we may consider ground-level norms.

I shall argue that "meta-level" norms should be invariant across all universities. Insofar as the norms dictate acceptable criteria for accepting sponsored research, they shall not be traded away by rebalancing communitarian and libertarian interests (ground-level norms). To justify their invariance across the diverse university cultures, meta-level norms must stand up to critical scrutiny. When a meta-level norm is rejected, we must be prepared to argue that the institution falls short of meeting one of the essential qualities we associate with universities. Because they are invariant, meta-level norms are not subject to trade-offs. Sponsored research contracts that violate meta-level norms should

fail the admissions test, however else the university calibrates its balance between communitarian and libertarian interests of its faculty. Ideological preferences should not affect the choice of meta-level norms. For example, the social and regulatory conservative Henry Miller of the Hoover Institute writes, "Universities must also ensure that he who pays the academic piper doesn't get to call the tune by influencing the results of research or by suppressing undesirable findings."¹¹⁰

As a start, I propose the following meta-level norms for externally funded research.

- The autonomy of the researcher must be protected. The researcher and his/her co-investigators must be in full control of the protocols, the data, the interpretation of results and the decision, venue, and time of publication.
- External research grants or contracts shall not place confidentiality requirements on the research outcome with the sole exception of a brief period to file a patent. Secrecy has no place in the open university.
- The purpose of external research funding should be to contribute to knowledge and not to produce public relations, promote products, or defend litigants in court.
- Transparency of the sponsor is essential to establishing trust in the university's role of a knowledge generator.
- No contractual constraints shall be imposed on the researchers for reporting results, however inconvenient or objectionable they may be to the sponsor.
- The principal investigators in a sponsored research project should be solely responsible for writing up the results; the sponsor should not play a role as co-investigator or contract with a ghost-writing company that is not cited in the publication.
- No external research grants or contracts should discriminate by age, race, religion, gender, political beliefs, or disability.

A few examples will illustrate these points. Let us suppose a sponsor issues a contract for research that takes away from the principal

investigator his or her autonomy for publication of the results. This provision in a sponsored research contract is inconsistent with how we understand a research university is supposed to function. University research is not a product of public relations or advocacy but an independent pursuit of knowledge guided by the researchers' disciplinary canons and reviewed by peers.

While contracts that conflict with the autonomy of the academic researcher are inconsistent with the idea of the university, they are quite prevalent across academia. As noted by Resnik:

Corporations that sponsor research frequently require scientists and engineers to sign contracts granting the company control over proprietary information. These agreements typically allow companies to review all publications or public presentations of results, to delay or suppress publications, or to prevent researchers from sharing equipment or techniques. The agreements are legally binding and have been upheld by the courts.¹¹¹

In a second case, the corporate sponsor issues a contract in which an academic investigator permits his name to be used in a ghost-written article. The sponsor hires a firm that specializes in writing and placing medical articles in the literature. The firm locates a highly regarded scientist whom they consider a "thought leader" and offers him a contract to sign his name as author to an article written for the firm, which would then be placed in a medical journal. To the company, there is an advantage in having a prominent medical researcher write about, for example, off-label uses of a drug, which have not been approved by the US Food and Drug Administration (FDA). Companies are prohibited from promoting or advertising the use of a drug for some purpose that has not received FDA approval. Physicians, however, may prescribe off-label uses of drugs based on their own judgments, even as drug companies are prohibited from lobbying them in support of such uses. Through ghost writing, drug companies get around the prohibition of off-label lobbying by having doctors speak to one another about their

"best" practices and observations. Journals are beginning to respond to ghost writing as a form of plagiarism and therefore a violation of scientific integrity.¹¹²

In both the previous cases, the focus of the sponsored research is on the nature of the contract language and not on the company sponsor or the type of research. Meta-norms against plagiarism or sponsor control of research outcome speak to the core principles of a research university. However, the boundary between ground-level and meta-level norms is dynamic and not invariant. As professional associations and accrediting groups reach unanimity over ground-level norms, those norms can rise to the meta-level.

Starting after World War II and continuing through the Vietnam War period, a number of universities in the United States accepted classified research from government agencies, most prominently the Department of Defense. Faculty and graduate students participating in a classified research project had to be investigated and vetted by the Department of Justice to determine whether they represented a security risk — a term that was broadly interpreted to include people who protested the war. Classified research divided the academic community. Some viewed it favourably as contributing to the "defence" model of the university, where academic scientists contribute to national security. Others, however, saw the system of classified research as an anachronism in the modern research university where free and open exchange of ideas is the hallmark of higher learning.

During the 1960s, student anti-war activists at the University of Pennsylvania (U Penn) learned that their institution hosted classified research on chemical and biological warfare, under the program names Spicerack and Summit, which had direct relevance to the US actions in Vietnam.¹¹³ While students criticized the research for being immoral, most faculty criticism focused on the inappropriateness of secrecy at the U Penn campus. Eventually, after a split between the administration and faculty, the U Penn Board of Trustees voted to divest the university of the classified war-related research and refused to transfer the projects to its off-campus sites.¹¹⁴

By the Vietnam War's end there was a broad consensus among major

research universities that classified or secret research was incompatible with the values of academic science. The pursuit of certifiable knowledge requires transparency to actualize the self-correcting function of science. Classified science was a recipe for perpetuating errors. Science could easily fall victim to ideology in a closed system built on secrecy, sequestered science, and loyalty oaths.

A number of research universities that had once accepted classified research spun off separate research centres that were not part of the core universities. For example, in response to student protests against secret research on campus in the 1960s and early 1970s, MIT turned Lincoln Laboratory into a semi-autonomous, off-campus entity where it located its classified research. Thus, the ground-level norm of "no classified research" adopted by some universities became the meta-level norm adopted by the vast majority of universities by the mid-1970s. However, secret research entered the university in another form: namely, business contracts that contained clauses about protecting confidential business information, including intellectual property. The campus political climate and public criticism that pressured universities to abandon classified research was not recreated to address business secrecy on campus when "academic capitalism" was ignited in the 1980s.

Another meta-level norm grew out of federal mandates that required universities to adopt ethical guidelines for human experiments, especially informed consent requirements for all persons participating as human subjects. By the mid-1970s it was no longer a matter of discretion for universities to protect human subjects in clinical trials. Human subjects research, whether from public or private funding sources, had to comply with federal guidelines on informed consent.

CASUISTRY AND QUESTIONABLE SPONSORED RESEARCH

The term casuistry refers to the use of cases to draw conclusions in ethics and law.

I shall use cases to draw out and test the normative principles developed in previous sections. The framework I described has two levels for building a normative structure of sponsored research. Meta-level

norms provide unity, continuity, and invariance across research universities, while ground-level norms offer a degree of flexibility enabling localized balances of communitarianism and libertarianism values. The boundaries are not impermeable but respond to consensus-building processes of professional and university associations. In the United States, government regulations and congressional oversight committees can also create a broad consensus for negotiating ethical standards in conducting research.

TOBACCO INDUSTRY—SPONSORED RESEARCH

Let us begin with a case of prohibiting research from a particular industry. The University of California Board of Regents debated whether any of its faculty should be allowed to conduct research financed by the tobacco industry.¹¹⁵ This proposal was not a restriction on the content of the research but rather on the funding source. Presumably, the same project supported for funding by Philip Morris, Inc. could be funded by another corporation. This proposal to ban any research contract or grant from an entire industrial sector, namely tobacco, from sponsoring research at any of the universities in the California state system grew out of the findings about the tobacco industry's unsavoury and rogue activities that were revealed in the state tobacco litigation.

Arguments in favour of "banning tobacco money" cite the health effects of tobacco, the industry's record in distorting research findings that were unfavourable to the sale of tobacco products, and the industry's lack of respect for scientific integrity. Critics of the tobacco industry characterize this sector as flagrantly dishonest and untrustworthy in claims about its products. For years the industry manipulated the amount of habit-forming nicotine in cigarettes and advertised directly to children. Universities, some believe, have an obligation to draw a scarlet letter on rogue industries who wish to gain credibility by funding research at a university. Bans on tobacco money are mostly found in certain schools, such as public health and medicine, because the mission of these schools cannot be reconciled with the reckless disregard of human health shown by the tobacco industry. The pretension that the tobacco industry had a true interest in science was nothing

more than a ruse; all the time, it was seeking to buy itself fabricated knowledge. The misdeeds of the industry are well documented. The World Health Organization reports that, "the tobacco companies planned an ambitious series of studies, literature reviews and scientific conferences, to be conducted largely by front organizations or consultants, to demonstrate the weaknesses of the IARC [International Agency for Research on Cancer] study and of epidemiology, to challenge ETS [environmental tobacco smoke] toxicity and to offer alternatives to smoking restrictions."¹¹⁶

For over fifty years tobacco companies have placed articles in the medical literature, without revealing their support for the research. They financed a large number of studies intended to show that the research conducted by IARC was flawed, and they created an independent coalition of scientists to manufacture uncertainty on the link between tobacco and disease. The tobacco industry also funded international seminars to develop "good" epidemiological standards of scientific proof that would serve cigarette manufacturers by raising the standards of proof.¹¹⁷ As noted in the journal *Science*, "The [tobacco] companies frequently killed their own research when it came to unfavorable conclusions, funded biased studies designed to undermine reports critical of smoking, and used the names of respected scientists and institutions to bolster their public image."¹¹⁸

Increasingly, studies have shown that health research funded by the tobacco industry is biased in favour of the financial interests of the sponsor. A report published in the journal *Addiction* found that "scientists acknowledging tobacco industry support reported typically that nicotine or smoking improved cognitive performance while researchers not reporting the financial support of the tobacco industry were more nearly split on their conclusions."¹¹⁹

Even with its legacy of deceit and malfeasance, there are reasons not to ban research funding from an entire industrial sector. First, some of the grants or contracts funded by the tobacco industry may lead to positive outcomes, particularly post-litigation, as the industry is under the social microscope. It can no longer get away with its unsavoury practices. If there is any redemption from past misdeeds, industry money

could benefit society. Most of today's mega-foundations obtained their wealth by human exploitation and deceit. By placing a blanket ban on such funding, the university could be foregoing socially valuable research.

A second consideration is how to circumscribe the so-called tobacco sector. Tobacco companies are parts of conglomerates. If there is a contaminated branch of a corporation or industrial sector, does it implicate all other branches from the corporate trunk? If a university bans funding from Philip Morris, should it also ban funding from a food corporation that sits under the same corporate umbrella? To circumvent such restrictions, tobacco companies can provide support to a foundation which then doles out money for research. As an example, a cancer researcher at the Weill Cornell Medical College published a study stating that 80 percent of lung cancer deaths could be prevented through the use of CT scans. The study had been financed in part by a little known non-profit called the Foundation for Lung Cancer. Investigative reporters at the *New York Times* learned that this foundation was largely supported by the parent company of a tobacco group.¹²⁰

Third, what makes tobacco's behaviour unique? Consider, for example, drug companies that have withheld important safety information from the FDA, resulting in preventable deaths. Or what shall we say about the asbestos, lead, and chemical industries that knowingly compromise workers' health in favour of maximizing corporate profits. Is there such a thing as tobacco exceptionalism? Failure to distinguish among rogue corporate behaviour is one of the reasons the American Association of University Professors issued a policy on sponsored research that opposed the idea of singling out the tobacco sector:

An institution which seeks to distinguish between and among different kinds of offensive corporate behavior presumes that it is competent to distinguish impermissible corporate wrongdoing from wrongful behavior that is acceptable. A university which starts down this path will find it difficult to resist demands that research bans should be imposed on other

funding agencies that are seen as reckless or supportive of repellent programs. If the initiative in calling for these bans on the funding of faculty research comes from the faculty itself, our concerns about the restraints on academic freedom are not thereby lessened. A university at which the research is conducted should not be identified with the views and behavior of the tobacco industry because faculty members accept its funding, just as the university should not be identified as necessarily endorsing the content of the researcher's work.¹²¹

Some critics of tobacco exceptionalism question whether government sources of funding stand on higher moral ground than that of the cigarette industry. For example, funding from the US Homeland Security Agency or from the Department of Defense is said to be tarnished by an illegitimate war effort based on presidential malfeasance in claiming unsubstantiated weapons of mass destruction as justification to make a preemptive strike against an independent state. Once moral criteria enter the decision for determining which funding is worthy of entering the university, research libertarians argue that no clear line can be drawn.

Another opponent against banning tobacco research in universities was quoted in *Science* as opposing the use of moral criteria to evaluate sponsored research. "How do you avoid infringing on academic freedom, and what sort of slippery slope do you create by denying grants on moral grounds?"¹²²

Where does the case of the tobacco companies sit with respect to the framework developed in this paper? The meta-norms of the framework are not intended to apply to the historical or current misdeeds of a company. Similarly, the use of guilt by association, which can blemish an entire industrial sector for the malfeasance of a few companies, is not justified for establishing a meta-norm. Neither a company's history nor its current market behaviour tells us anything about the quality of the research it could sponsor and its respect for independent and autonomous academic scientists who would plan and execute that research. Meta-norms are specific to the conditions under which

research is conceptualized and executed under the sponsor's contract. In this framework, the meta-norms cannot be used to prohibit research dollars from an entire industrial sector, unless a specific action adopted by that sector violates one of the core principles of independent research: for example, if an industrial sector never allows a sponsored researcher to have autonomy over publication.

The framework leaves open the possibility that ground-level norms would bar tobacco companies from sponsoring research. The university community can decide that, regardless of the social value of the proposed research project, the commercial goals of the tobacco industry are in conflict with the values of the institution. Moreover, the university does not wish to lend its honourable name to a dishonourable industry that preys on people prone to addiction and whose product is responsible for untold deaths and illnesses. Forbidding any research sponsor should not be taken lightly, because it is restricting individuals from potentially funding their work. For example, in 1990 the University of Delaware refused to receive grants from the Pioneer Fund, which one faculty member described as an organization with "a long and continuous history of supporting racism, anti-Semitism and other discriminatory practices."¹²³ University president E.A. Trabant initially defended the ban on Pioneer Fund "so long as the fund remains committed to the interest of its original charter and to a pattern of activities incompatible with the University's mission."¹²⁴ After an independent arbiter ruled in favour of two professors who wished to apply for grants from the fund, the University of Delaware reversed its policy.¹²⁵

The Harvard School of Public Health and the University of Glasgow prohibit their researchers from applying for tobacco funding. Some foundations like the Wellcome Trust (UK), the American Legacy Foundation, and the American Cancer Society will not fund researchers who have been awarded tobacco money.¹²⁶

While such policies may conflict with an individual faculty member's funding opportunities, and in some cases their ability to maintain their laboratories, they do not rise to the level of infringement of academic freedom (meta-norm) as long as the policies follow appropriate university governance procedures and they do not constrain a faculty

member's right to speak or write about a subject.

Those protesting any constraints on sponsored research cite the academic freedom of individual researchers to pursue areas of investigation of their choice. A resolution approved by the University of California's (UC) Academic Senate stated that "no special encumbrances should be placed on faculty members' ability to solicit or accept awards based on the source of funds."¹²⁷ Others correctly note that academic freedom refers to speaking, writing, and pencil-and-paper research. No professor has an unbridled right to engage in laboratory research or any research that requires sponsored funding independent of institutional or government norms. The investigator and the university administration are partners in the sponsored research. If an institution refuses to accept sponsored funding from a tobacco company, there are other options open to investigators who wish to pursue a research program. They could find other funding, pursue the study without funding, if possible, or collaborate with someone whose institution will accept the funding. There are no universal norms among universities which state that, "because I can get funding from company X for work Y in institution Z, then *I should* get approval from Z for such funding." Universities, however, should be able and willing to provide a justification, within the tradition of faculty governance, to prohibit a particular funding source. The burden for denial should be on the shoulders of the university.

In September 2007 the Board of Regents of the University of California took a middle-of-the road position between outlawing tobacco funding and giving total authority to individual faculty to negotiate research contracts with tobacco companies. The regents created a scientific review committee whose mandate it is to certify that a tobacco-industry funding proposal "uses sound methodology and appears designed to allow the research to reach objective and scientifically valid conclusions." Once the proposal is vetted and approved, the investigator will be allowed to apply for funds from the tobacco industry at any of the University of California colleges and universities.

WEAPONS RESEARCH

A second case that can be tested against the normative framework is the opposition to a class of research: namely, *weapons research*. Let us assume that a faculty senate is in agreement with the administration on proscribing any sponsored research involving weapons, including building or testing weapons or weapons systems, analysis of weapons, or protecting citizens or the military against weapons, as in the cases of developing vaccines for biological weapons or anti-missile systems. Let us also assume that the research contract does not violate the academic freedom or autonomy of the investigator in conducting or publishing the research, which usually implies that it is not classified. In this example, the contract language is not in conflict with other meta-norms. Because no meta-norms are violated, the decision on the suitability of the research would be made at the ground level. Can the university apply reasonable ethical grounds, based on its mission and core values, sufficient to gain support from the academic community for proscribing weapons research? Can the university establish a sufficiently clear demarcation between weapons and non-weapons research to avoid even the appearance that the decision is whimsical rather than being grounded on an accepted ethical norm?

It is likely that most, if not all, federally funded weapons-related contracts would have some degree of secrecy and, therefore, violate a meta-norm in the normative framework of this chapter. If the research is unclassified, it could be argued that it is fundamental in nature and does not have specific weapons application, such as a system of parallel computing that could be useful for radar tracking of a high speed projectile in the atmosphere. Alternatively, a novel method of vaccination against Rift Valley fever or anthrax could raise questions about indirect weapons research. If a country has a vaccine, then the biological agent for which citizens or soldiers can be immunized becomes a weapon. Although at various times in history biologists have signed pledges stating they will not work on biological weapons, the distinction between defensive and offensive weapons within the fields of bacteriology and virology can easily be blurred.¹²⁸ As a communitarian

decision, a university can, on moral grounds, proscribe sponsored research on weapons. But the framework I have introduced does not imply that response as long as meta-level norms are not breached. In my view, the concept of the "weapon" itself does not elevate the research concern to a violation of a meta-norm, therefore making it inherently unfit for a university.

COMMERCIAL TESTING IN ACADEMIA

Throughout much of the twentieth century, during the growth of academic entrepreneurship and government-sponsored research, universities reexamined the standards for tenure at their institutions and debated the criteria for evaluating the quality of faculty productivity. In fields such as chemistry and chemical engineering, faculty were doing extensive consulting and participating in what Karl Taylor Compton, former president of the Massachusetts Institute of Technology (MIT), called "pot-boiling research." According to John Servos's account of industrial relations at MIT, "excessive outside work, 'pot-boiling' as Compton called it, would militate against [academic] advancement."¹²⁹ Compton and others warned faculty that they would not get promoted if their work involved routine testing programs, typically handled by consulting companies, rather than the engagement in fundamental advances in science. Those who opposed pot-boiling research considered it outside of the university's educational and research mission to be turned into corporate testing centres that are likely to be accompanied by contracts with confidential business information requirements, potentially violating the meta-norms of openness and publishing rights. However, even if the meta-norms are not violated, an institution is correct in exercising its fiduciary responsibility when it evaluates whether the sponsored project offers any educational value or contributes to new knowledge.

Today, a number of universities make income by selling their testing services to corporations. As an example, Clemson University hosts the Clemson University Packing Service, which "provides contract package/product testing and material evaluation for both food and non-food industries."¹³⁰

Because the standards for what contributes to educational value and new knowledge may vary widely across disciplines and institutions, decisions about the proper place of testing programs in universities is best left to local governing systems. Nevertheless, extreme cases can easily be identified. For example, if the sponsored activity is not likely to yield published papers in refereed journals, the sponsored contract would fail the test of advancing knowledge. University public health departments have toxicology sections that accept industry contracts to test chemicals by *in vitro* or *in vivo* studies, applying standardized protocols that meet the criteria of regulatory bodies. There exist many refereed journals for publishing such studies.

I would include a meta-norm in my framework that sponsored testing activities that have no prospect for advancing knowledge or educational benefits for the university should be proscribed. This meta-norm protects universities, during times of financial exigency, from becoming contract research outposts for corporations. When the interpretations are ambiguous, the decision making should be left at the ground level, where local standards are applied.

During the past quarter-century, universities have found new lucrative income streams in running clinical trials for drug companies. Most of the new drug testing in the United States and Canada is supported by the pharmaceutical industry. Medical faculty benefit by acquiring publications from such trials, when such publications are approved by the sponsor. Published trial data can contribute to the applied knowledge of drug safety and efficacy, but rarely contribute to basic medical knowledge. From the public-interest perspective, universities may offer more quality control and moral accountability in managing clinical trials than one finds among contract research organizations, who hire private institutional review boards and have no accountability outside of their corporate structure.

MEGA-RESEARCH CONTRACTS

In 1980 the US Congress enacted the Bayh–Dole Act, which stimulated aggressive corporate research investment in universities. Under the act, the government gave up to the universities and their business partners

all intellectual property rights assigned to discoveries made under federal grants. A host of new multi-year, multi-million dollar corporate grants and contracts were awarded to universities, targeted to academic units as opposed to individuals. These included British Petroleum's \$15 million to Princeton,¹³¹ Chevron's \$25 million to the University of California at Davis,¹³² and ExxonMobil's \$100 million to Stanford.¹³³

Recently, the University of California at Berkeley (UCB) has been at the epicentre of a controversy over corporate-academic partnerships involving sectors of the university. In the first of two partnership agreements, the dean of UCB's College of Natural Resources sent out letters of inquiry to sixteen agricultural biotechnology and life sciences companies, ostensibly to auction off a research collaboration with the Department of Plant and Microbial Biology. The dean selected Novartis, a \$20 billion food and pharmaceutical company, as UCB's corporate partner. Under the contract Novartis provided UCB with \$25 million in research dollars over five years. Among the benefits to Novartis were patenting and licensing rights as well as seats on UCB's internal research committee, which decided on the allocation of funds. All faculty members who signed on to the agreement (which it turned out was the vast majority of the department) were subject to restrictions. "Once a faculty member signed the confidentiality agreement, he or she could not publish results that involved data without approval from Novartis."¹³⁴ Novartis could request publication delays of up to 120 days and could obtain exclusive licensing rights of UCB patents — which has been argued by legal scholars is not in the public's interest. A second mega-contract with UCB came to fruition in 2007. British Petroleum (BP) signed an agreement worth \$500 million in research funds to UCB, Lawrence Berkeley National Laboratory, and the University of Illinois to develop new sources of energy, with a primary interest in biofuel crops.¹³⁵ BP's funding supports a major expansion of UCB's clean energy research. The company gains the opportunity of assigning fifty of its researchers to the partnering institutions. Faculty at UCB raised questions about the impact of the agreement on researchers' academic freedom and the external control over the university's research agenda.¹³⁶

Mega-contracts awarded to universities can compromise the autonomy of the institution or its faculty. Corporate partnerships typically involve joint corporate-academic committees that decide on the research agenda for use of the funds. With corporate funds amounting to hundreds of millions of dollars, there is a risk that it could create a monoculture of research in a department or even an entire school that is financially linked to one industrial sector or a single multinational corporation. The grass roots group Stop BP-Berkeley expressed a similar view in their protest literature: "We believe the proportion of corporate funding in public research must be carefully limited, to prevent the over-development of specific areas of research at the expense of others."¹³⁷ The academic unit in partnership and under contract with the company begins to take on the appearance of a research satellite of the sponsor. If the partnership lasts long enough, the size and influence of the sponsor's contract can violate the meta-norms that should be common to all universities. The prospect that mega-contracts can override the university's core values by violating meta-norms is, within the framework I have outlined, a reason to oppose them. The scale of the contract, not its specific content or the reputation of its sponsor, is at the root of the conflict. The quantitative changes arising from the size of the contract can result in qualitative changes that can impair the university's autonomy and diminish its role as a broker within the academic marketplace of ideas.

RACIAL OR ETHNIC DISCRIMINATION AND SPONSORED FUNDING

Universities are obligated to abide by national anti-discrimination laws. Let us imagine that a US university is offered a grant to become research partners with a university in a Middle Eastern country. The national science agency in the country is similar to the US National Science Foundation in that it funds basic science and operates under a system of peer review. There is one difference between the two agencies. Our hypothetical Middle Eastern science agency, following its national laws, prohibits anyone who is Jewish from working on the grant. The US university must decide whether it will adopt the stan-

dards of another country with regard to personnel on its grants when it considers sponsored research funded by that country. Would accepting such a grant violate US anti-discrimination laws? And if it were possible to get around those laws, would it be ethical to accept such funding? Both the US Constitution and the federal civil rights enactments are sufficient grounds for treating anti-discrimination as a meta-norm in the proposed ethical framework for sponsored research. An external grant that requires a university to violate a constitutional principle — equal treatment under the law — cannot be permitted, whatever national government is footing the bill. It should not be left to the discretion of a university to sign a contract for sponsored research that would prevent members of the university community from fully participating in the research project because of their race or ethnicity. Even the lure of healthy profits from oil-rich countries can not be an excuse for accepting such a contract or considering it under a fully deliberative communitarian process.

CONCLUSION

This chapter has explored the question: Are there ethical grounds for prohibiting university faculty from applying for certain types or sources of external funding? I propose a two-level normative framework, which I term the ground level and meta-level. The latter consists of a set of norms directed at the core epistemic values of independent and autonomous research institutions. The normative conditions outlined in the meta-level should be invariant across all research universities. Examples include norms such as that the investigators of a study are fully responsible for the data, the contents of published work, and the timing and venue of publication. The National Institute of Environmental Health Sciences journal *Environmental Health Perspectives* emphasizes such a norm in its instructions to authors: "all authors are required to certify that their freedom to design, conduct, interpret, and publish research is not compromised by any controlling sponsor as a condition of review or publication."¹³⁸ Another meta-norm should be that, under the conditions of external research, there shall be no discrimination of personnel with regard to race or ethnicity.

Ground-level norms include any factors of social and moral relevance to the institution that, in conjunction with faculty governance standards, allow the institution to calibrate a balance between communitarian and libertarian interests. Under my proposed framework, sponsored funding from tobacco companies, pro-Nazi organizations, or radical animal rights groups could meet meta-level conditions if the research contracts protect core values of the concept of the university. However, to account for the diversity of interests and values across American universities, the ground-level norms are set by proper governance functions at the individual institutions. The burden must be on the university to provide transparency and deliberative justification for taking from individual investigators the *prima facie* right to apply to funding organizations for sponsorship of their research. In developing this framework, I recognize that I depart from the policy adopted by the American Association of University Professors (AAUP), with whom I agree on many other issues. The AAUP has stated: "Denying a faculty member the opportunity to receive research funding for such reasons would curtail that individual's academic freedom no less than if the university acted directly to halt research that it considers unpalatable."¹³⁹ In my view, as long as faculty members are neither suppressed from nor penalized for writing, teaching, investigating, or speaking about an issue, they retain their academic freedom. That freedom is not extinguished in the case that a university community takes responsible and transparent collective action, following accepted governance procedures, that prohibits certain funding from entering the university.