

The Bayh-Dole Act, Faculty Choice, and Innovation

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The Bayh-Dole Act, passed in 1980,¹ requires federal agencies to adopt uniform practices with regard to federal government procurement of patentable inventions made with federal support at universities, nonprofits, and small businesses.² The Act authorizes the Department of Commerce to create standard patent rights clauses to be used in federal funding agreements, along with protocols for agencies to modify the patent rights clause when necessary.³ When a university accepts federal funding, it agrees to the patent rights clause in the funding agreement.⁴ Thus, a university's obligations under Bayh-Dole are actually federal contract obligations under each federal funding agreement and may vary according to the actual patent rights clause included in the funding agreement. To be clear: the Bayh-Dole Act applies to federal agencies, not to universities.⁵ Universities agree to contract terms set under the authority of the Act. Compliance with those terms is a matter of federal contracting, not federal law.⁶

The Basic Requirements of the Standard Patent Rights Clause

The Standard Patent Rights Clause sets out general obligations on all contractors, special obligations on university and nonprofit contractors, and the disposition of invention rights in the case of assignment of the agreement, subcontracting of agreement tasks, or substitution of parties in the agreement.⁷ As will be shown, substitution of parties is an essential element of the Standard Patent Rights Clause. A "subject invention" is an invention made with federal support that is owned by a contractor working under a federal funding agreement.⁸

The general obligations are remarkably simple. A contractor must:

- Identify personnel responsible for patent matters;⁹
- Educate employees on the importance of timely invention reporting;¹⁰

- Report subject inventions to the funding agency within two months of receiving notice of a subject invention;¹¹
- Notify the funding agency on a decision to elect to retain title to a subject invention within two years of reporting the invention;¹²
- Require employees to make a written agreement to protect the federal government's interest in inventions;¹³
- Flow down the Standard Patent Rights Clause in any subcontract;¹⁴
- Provide on request by a funding agency a listing of all subject inventions that have been disclosed under that agency's funding
- For each funding agreement, provide a close out report to the funding agency identifying all subject inventions.¹⁵

These obligations pertain to basic logistics directed at identifying patentable inventions made within the planned and committed activities under a federal funding agreement.¹⁶ The primary concerns of these basic obligations are (i) ensuring that the patent rights clause is appropriately distributed from the contractor to those involved in the conduct of the research, especially subcontractors and research personnel, and (ii) reporting subject inventions to the funding agency. Only one of these obligations pertains to invention ownership: reporting to the government whether the contractor chooses to retain title to an invention that the contractor has obtained, or may obtain, from the inventors of that invention. There is no requirement in the Standard Patent Rights Clause that the contractor must take ownership of invention or that ownership is somehow thrust upon the contractor. There is not even any encouragement for such assignment of ownership of inventions. Clearly, there is no compliance issue whatsoever for universities with regard to ownership of inventions other than to notify a funding agency whether the contractor will retain ownership if the contractor obtains ownership.

The (f)(2) Agreement

The written agreement requirement in the Standard Patent Rights Clause (f)(2) has been frequently misunderstood and misrepresented:

The contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the contractor each subject invention made under contract in order that the contractor can comply with the disclosure provisions of paragraph (c), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions.

This requirement at (f)(2) is not that a contractor must require research employees to assign all inventions to the contractor. Rather, (f)(2) requires the contractor to require each employee to pledge in writing *to the government* to report inventions, to sign paperwork to permit patent applications to be filed, and to sign paperwork to establish the government's rights in a subject invention (namely, to grant the government a license to the invention or to assign the invention to the government).

The (f)(2) clause is one of the few provisions in the Standard Patent Rights Clause that has no parallel text in the Bayh-Dole Act proper. Since (f)(2) does not appear in the Bayh-Dole Act, it is often overlooked by legal and academic commentators in their opinions about the operation of the Bayh-Dole Act. The relationship between a funding agency and a university is one of agreement, not statute; thus, the Standard Patent Rights Clause is the controlling text, not the Act. Commentators who look only at the text of the Bayh-Dole Act and not at the actual terms of agreement between a funding agency and a university and its research personnel make a grave error that may undermine their conclusions and recommendations.

The agreement that a contractor requires under (f)(2) to protect the government's interest is vitally important to the implementation of Bayh-Dole, and to the status that faculty investigators enjoy in federal funding agreements. The (f)(2) provision is the fundamental invention procurement clause in the funding agreement. Federal patent law,¹⁷ following the US Constitution,¹⁸ provides

that an inventor personally owns any invention that the inventor may make. For anyone else to obtain title to the invention (and hence to any patent that issues on the invention), the inventor must assign the invention in a written instrument. There is no "invent for hire" provision that vests title of an invention in the employer, as there is in, for instance, UK patent law.¹⁹

For the government to obtain rights to a subject invention by means of a funding agreement, the government must cover each case in which an invention may be owned. The default case is that the invention is owned by its inventor. Thus, the government must ensure that there is an arrangement directly between potential inventors and the government²⁰. Since there is nothing in the Bayh-Dole Act that vests ownership of subject inventions with the employer (or with a research foundation contracted to the employer), the Department of Commerce created a procurement clause that follows the chain of title in inventions to its origin, that is, to each potential inventor. Rather than requiring employers to demand assignment of all subject inventions from their employees, which would have been a substantial intrusion of the federal government into the relationship between faculty and their institutions, the Department of Commerce required university (and other) contractors to require their employees to protect the government's interests regardless of whatever other arrangements regarding inventions that they might have with their employer or with any other organization.

It is by means of the (f)(2) agreement that the federal government has the right to request from the inventors directly the assignment of their invention, or a license to practice their invention, in the case where a university or other contractor does not obtain title to the invention. The (f)(2) provision therefore is essential. It requires the contractor to delegate the key elements of the Standard Patent Rights Clause to research personnel,²¹ similar to the requirements for subcontracts.²² The (f)(2) agreement creates a conditional substitution of parties in the Standard Patent Rights Clause. If a research investigator makes an invention in the course of a federally funded project, the (f)(2) agreement makes that investigator have the standing of a contractor for the purpose of establishing a subject invention, reporting the subject invention, and with regard to the federal government, assigning title to the invention, or granting license rights to the invention.²³ If a university contractor takes no action with regard to a

subject invention, then the (f)(2) agreement provides that any discussion regarding ownership of that invention is directly between the inventors and the federal government.²⁴ In this way, beyond reporting subject inventions and disclaiming an interest in ownership, a university has very little to do to comply with the Standard Patent Rights Clause.

The (f)(2) agreement, because contractors agree to require it of their employees, has another important effect. As a federal agreement, and because the employer requires it, the (f)(2) agreement supersedes employer policy and contracts with employees regarding the disposition of inventions made with federal support. The (f)(2) agreement joins a contractor's potential inventors to the federal funding agreement. In essence, each investigator working with federal support, by making the written agreement, becomes a limited "contractor" under the Standard Patent Rights Clause the moment the investigator makes an invention.²⁵ This status is confirmed by the implementing regulations for the Bayh-Dole Act, which direct federal agencies to treat inventors as if they were small business contractors if they do not assign their invention rights to an invention management agent and the funding agency permits the inventors to retain ownership of their inventions.²⁶

If a contractor or other invention management agent does not obtain assignment of an invention, then the (f)(2) written agreement made by the inventors controls their relationship with the funding agency. The approach taken by the government in developing the Standard Patent Rights Clause is highly consistent with university policy treatment of inventions in the years prior to the enactment of the Bayh-Dole Act. While federal agency policy regarding inventions made with federal support was based on "flexibility" by presidential executive orders,²⁷ university policies were diverse, and spanned the spectrum from demanding ownership of all inventions to disavowing any interest in such inventions, or simply remaining silent on the matter of inventions and allowing the defaults of federal patent law as modified by extramural contracts to control the disposition of invention ownership. Relatively few universities demanded assignment of inventions to the institution.²⁸ A number of universities had established arrangements with one or more invention management agents. The leading invention management agent at the time was Research Corporation, which was largely responsible for the

formation of "technology transfer" offices to facilitate the conveyance of faculty inventions to Research Corporation for evaluation and possible management for patenting and licensing.²⁹ Other invention management agents included Battelle Development Corporation, Competitive Technologies, and over fifty university affiliated research foundations.

The purpose the Bayh-Dole Act was not to force this diverse network of invention management resources to collapse into a one-size-fits-all approach based on institutional ownership. The aim was for Bayh-Dole to make federally supported inventions available to the existing network in all its diversity by removing the agency overhead of special patent administration agreements negotiated with each university and reviewing on a case-by-case basis each request for non-federal invention management.³⁰ It was the apparent productivity of the invention management network to place faculty inventions that proved compelling.³¹ The arguments made in the run up to Bayh-Dole were that arbitrary federal agency claims to ownership failed to develop inventions to their potential. It would be deeply ironic if the purpose of the federal law was actually to impose on universities and their faculty precisely these same arbitrary, bureaucratic practices that had been discredited at the federal level, displacing the emerging, opportunistic, and flexible approaches developed by university administrators, faculty, and a host of invention management agents.

The Fundamental Bargain under the Bayh-Dole Act

The Standard Patent Rights Clause presents university inventors with a fundamental bargain. If the inventors assign their invention to an approved patent management agent, then that agent will be allowed to retain title to that invention, provided the agent complies with a second set of requirements under the Standard Patent Rights Clause. Approved agents include either (i) an organization that has as a primary function the management of inventions, or (ii) the inventor's employer, the contractor, even if the contractor has no capacity whatsoever to manage inventions.³² Other assignments are possible with agency approval, as is the retention of ownership by the inventors to act as their own agent, as it were, also with agency approval. Thus, the Standard Patent Rights Clause deal authorized by Bayh-Dole is that faculty (and other inventors supported by

federal funding agreements) either assign their inventions to an agent, or work things out with the funding agency, at the agency's discretion. If an inventor wants control of an invention without relying on agency review and approval, the inventor chooses an agent. Otherwise, it is the agency's contractual right under the (f)(2) agreement to decide what to do with a subject invention. It is this choice of the inventors that is at the heart of Bayh-Dole. Inventors are provided with the prospect of participating in any pathway of invention management of their choosing, across the whole range of possible ways of managing inventions in the context of university-hosted research.

Bayh-Dole does not require university administrators to serve as invention management agents. Bayh-Dole does not require university contractors to have an invention policy, or to demonstrate an invention management capability, or to take ownership of subject inventions, or to attempt to commercialize inventions, or to seek to profit from patent positions taken out on subject inventions. None of these things are in the law or in the Standard Patent Rights Clause. The origin of such things is not with Bayh-Dole, but with other interests that have made their presence felt among university administrators and even among faculty. It is important that faculty recognize and address these other interests, even in the face of a united front that presents a polished, seemingly successful patent administration function.³³

What Bayh-Dole does not anticipate, and therefore lacks adequate protections for, is the prospect that university administrators would seek to destroy the diverse and productive approach to inventions available to inventors and replace it with nearly the same bureaucratic claim to all inventions made with federal support that certain federal agencies had taken. Bayh-Dole did not merely shift a federal bureaucracy regarding inventions made with federal support to become a university bureaucracy regarding such inventions (and in the case of public universities, shifting federal government interests to state government interests). The spark of genius in Bayh-Dole lies in restricting bureaucratic control of federally supported inventions in favor of decisions made by the investigators and inventors involved in doing the research. Bayh-Dole does not propose that university administrators are better at making invention management decisions than are the inventors themselves. On the contrary, what Bayh-Dole proposes to federal agencies is

that agencies let inventors work out the best arrangements they can, if they have an interest in doing so. Bayh-Dole establishes that as far as the federal government is concerned, assignment of a subject invention to an approved agent is the minimum standard by which to judge an inventor's interest in management, use, and development of any given subject invention. The response of university administrations has been to turn this inventor choice into an institutional demand, based on claims that Bayh-Dole requires the demand, or that the demand is justified based on employment, use of university resources, or simply because the demand has been placed in policy, and policy must be complied with.

Many university administrators have construed the Bayh-Dole Act to apply to universities directly, have represented that the Bayh-Dole Act vests the right of ownership, if not actual ownership, of inventions directly with universities as employers of faculty and others working under federal grants, requires universities to take assignment to such inventions to comply with federal law and regulations, and mandates that university administrators and their business partners seek to profit from patent positions, an activity generally called "commercialization" but which in practice does not have to do with the use or sale of product in commercial settings so much as securing income from the licensing or litigation of patents on subject inventions; that is, Bayh-Dole has been used as a justification for administrative speculation in patents and associated business interests. This reading of the Bayh-Dole Act has, more than anything else, motivated the conversion of a diversity of approaches to faculty inventions into an increasingly stringent institutional demand to own all such inventions for the overt purpose of attempting to profit from patent positions.

University technology transfer office literature as well as much of the academic literature on university licensing has ubiquitously promoted misconstrued versions of the Bayh-Dole Act and the Standard Patent Rights Clause. The misconstruction extends as well into professional organizations such as the Association of University Technology Managers and other organizations representing the interests of university administrators. If it were not for the 2011 Supreme Court decision in the case of *Stanford v. Roche*,³⁴ it would be easy to form the belief that such consistent repetition of a theme must mean that the university administrators and the various

front organizations through which they work must be right. Yet the Supreme Court was direct and decisive in rejecting the claim that the Bayh-Dole Act pertained to universities, or granted universities title to the inventive work of faculty (and others), or mandated assignment of title of inventions to universities for administration. While there is not space here to delve into the details of the situation at Stanford University that led to its litigation against Roche Molecular, it is important to recognize that the Supreme Court decision overturned much of the extant literature regarding the Bayh-Dole Act. Rather than work to revise that literature and their institutions' invention policies to reflect the Supreme Court's interpretation of Bayh-Dole, many university administrators have refused to do so, and a number have sought to consolidate their position on ownership of inventions on a new set of rationales. Many of those other rationales also do not withstand scrutiny.³⁵

One broadly circulated argument is that the Supreme Court misconstrued the intent of the Bayh-Dole Act and has by its decision created a defect in the Bayh-Dole Act that now must be remedied by university action to require assignment of invention ownership.³⁶ Such a requirement, university administrators argue, is necessary to preserve the system of administrative controls that was developed under the now rejected rationale that Bayh-Dole granted ownership of federally supported inventions to universities in order for administrators to expeditiously pursue profits through patent licensing. Under the influence of this rationale, and prompted by members of the legal community who appear dependent on university contracts to file patent applications, university administrators now argue that they must revise patent policies and employment agreements to require the upfront assignment of all future inventions, before those inventions are even made.³⁷ The idea behind this argument is that Bayh-Dole sought to provide universities with "title certainty." This, after a fashion is true: but that title certainty was for an invention management agent to be assured that it could retain title to a subject invention when an inventor chose to assign that title to the agent, not that a university administration was provided with a federal mandate to take title to any faculty invention whenever the administration chose to do so. If one sees the difference between these two positions, one involving inventor choice and the other administrator impunity, then one is in a good position to understand

what must be done to restore faculty choice in the disposition of inventions made with federal support.

Standard Patent Rights Clause Requirements When Inventors Assign to an Agent

A second set of requirements under the Standard Patent Rights Clause become effective if the inventors assign their invention to an invention management agent. That agent may be the contractor, or an invention management agent, or with the funding agency's approval any other organization that may be chosen. The essence of the Standard Patent Rights Clause is that the inventors may choose an invention management agent, and may do so without agency review or approval, and provided that the selected agent complies with the Standard Patent Rights Clause, the agency cannot contest assignment of invention to that agent.

If an invention management agent obtains ownership of a subject invention, then a second set of requirements of the Standard Patent Rights Clause become effective. These are the requirements typically recited in university administrative summaries of the Bayh-Dole Act. Once an inventor has reported a subject invention to the university taken place, then the university has two months to report the invention to the government, and two years from reporting the invention to the government to inform the government whether the agent chooses to retain title. Of course, to retain title, the university must obtain title. Some have interpreted the logic here to indicate that university administrators must compel assignment of subject inventions, but there is nothing in the Standard Patent Rights Clause that supports such an interpretation. An assignment may be entirely voluntary, made on the basis of a mutual agreement with regard to assignment, management, and disposition of any income from that management.

Furthermore, a contractor can assign various obligations under the standard patent rights clause prospectively, before any invention is made. Thus, a university can assign the obligation to receive invention reports to an affiliated research foundation or other invention management agent. That is, various parts of the invention procurement portion of a funding agreement can be assigned, independently of the assignment of ownership of any particular invention. While it may make for some confusion, it is important to distinguish the assignment of a contract itself, or a portion of that

contract (in this case, parts of the Standard Patent Rights Clause in a federal funding agreement), from the assignment of ownership in an asset that may be managed under the contract (that is, ownership of a subject invention).

If an invention management agent chooses to retain title, then the agent is required to do a number of things:

- Grant to the government a non-exclusive license;³⁸
- File a patent application within one year of electing to retain title;³⁹
- Maintain prosecution of the application and maintain and defend any patent that issues, including in foreign jurisdictions;⁴⁰
- Notify the government if the agent will not maintain prosecution, maintain the patent, or defend the patent, and in such case assign title to the government on request;⁴¹
- Include a government rights statement in any patent that issues on a subject invention;⁴²
- Provide on request a copy of the patent application and related information;⁴³
- Provide on request reports on the utilization of subject inventions;⁴⁴
- Require that any exclusive licensee make products in the US if for sale in the US.⁴⁵

In this set of requirements there is no obligation to “commercialize” an invention, or that an invention must be licensed, or that a license must be exclusive, or that any license must require payment. Throughout, the emphasis of the Standard Patent Rights Clause is on “practical application.”⁴⁶ The stated objective of “practical application” is that each subject invention is used and that the benefits of that use are available to the public on reasonable terms. Indeed, for a small business contractor, for instance, the patent right may be used to exclude others, permitting the contractor to use the invention in its business operations, allowing it to lower costs or increase production. Any such benefit would meet the objective of practical application. The only provision pertaining to licensing applies in the case of exclusive licenses for the US market.⁴⁷ There, product must be substantially manufactured in the US, unless the funding agency approves otherwise.

By requiring federal agencies to allow the assignment of subject inventions to invention management agents, the Bayh-Dole Act restricts the power of the federal government to claim ownership of these inventions. As such, Bayh-Dole has substantial affinity with the Bill of Rights, another document that provides for a similar limitation of powers. As federal support for otherwise independent research at universities comes to dominate all other sources of university research funding, such a restriction on federal powers is essential to preserve independent research. The federal government in providing financial support for such work is not contracting to remove all such work from private ownership and initiative. Unlike the Bill of Rights, however, the Bayh-Dole Act applies only to federal agencies and does not extend as well to the powers of state governments to appropriate those same rights. So the freedom that Bayh-Dole creates for inventors becomes, then, a valuable target for administrators at public universities focused on making money for their institutions and business associates through the exploitation of patent positions. This taking of faculty work is rationalized as in the public interest as confirmed by the Bayh-Dole Act, when clearly such a taking is an exploitation of a limitation of the Act. University faculty generally were unprepared for the scope of freedom made available to them by Bayh-Dole, and as a result of an organized effort by patent professionals and administrators lost through invention policy changes imposed upon them almost immediately many of the benefits and opportunities made available to them by Bayh-Dole.

Additional Standard Patent Rights Clause Requirements for Nonprofits

For nonprofit contractors, meaning in particular universities and nonprofit organizations that front for universities on matters of research and invention management, the Standard Patent Rights Clause sets out an additional set of requirements, more restrictive than those for inventors who retain ownership of their inventions or for small business contractors. These requirements are often cast as benefits granted to universities, but the requirements rather may be read to reflect a degree of distrust of university administration of patent rights.⁴⁸

If a university obtains ownership of a subject invention, it must:

- Assign inventions only to an organization having as a primary function the management of inventions, unless otherwise approved by the funding agency;⁴⁹
- Share royalties collected on subject inventions with inventors;⁵⁰
- Use the balance of royalties after expenses for scientific research or education;⁵¹
- Attract and give preference to small business licensees.⁵²

Unlike a small business, which may use a patent to exclude others in favor of its own operations, a university is expected to use licensing to place patented inventions at the disposal of companies. Indeed, obtaining a patent necessitates licensing if a patent owner is not going to exploit the invention to the exclusion of all others. The nature of licensing varies with the nature and interests of the patent owner. If the patent owner is, for instance, an instrument of state government, as is the case with public universities, then the overhead requirements for granting a licensing often differ from those of a private party. Such requirements may involve review by counsel, matters of public disclosure and conflict of interest, and selection of governing law, and may not be fully accounted for in the text of any particular license agreement.

The Standard Patent Rights Clause's four restrictions on nonprofit invention management activity reflect the administrative apparatus that typically accompanies such institutional licensing: the potential use of a licensing agent, the focus of the licensing effort, and the use of royalty income from licensing. These restrictions limit the options for university administration of subject inventions. University administrators cannot, for instance, simply assign a patent on a subject invention to a company; unless that company has a primary function in managing inventions, the administrators will have to obtain the approval of the federal agency that funded the research in which the subject invention was made.⁵³

The provisions pertaining to the use of royalty income establish two fundamental expectations. First, that the university will share royalties with inventors. This provision runs deeper than it appears. It is often described as setting a perfunctory minimum threshold of

\$1 of sharing, and anything beyond such a minimum is entirely at the discretion of the university administration. Even the presence of such an argument, which comes from university administrators, and never from faculty, staff, or students, indicates the need for a broader interpretation of this requirement of the Standard Patent Rights Clause. The royalty-sharing provision is based on the operation of consideration in an assignment transaction. Since the Standard Patent Rights Clause does not vest title to inventions with the employer, and does not require the employer to take title, and furthermore operates with regard to research performed for, and paid for, by the government, not the employer, the question arises how it could be that a university employer could have a right to ownership of any such invention without payment that reflects the value of the invention being transferred.

Just as the Standard Patent Rights Clause prohibits a contractor from demanding an interest in inventions that may be made by a subcontractor on the basis of its position with regard to the federal funding agreement, so also the royalty sharing requirement acts to prohibit a university contractor from demanding an interest in inventions made by its faculty and other research personnel on the basis of the funding agreement. For universities, federal funding requires something other than employment: the federal funding is distinct from employment, and the work is performed for the government, not for the university. While the university employs faculty and other research staff, it releases them from their employment to perform work supported by the federal government. The claim to ownership also cannot be based on provision of resources: the university agrees to provide administrative support, research facilities, equipment, supplies, and employee time necessary to conduct the research, and the government compensates the university for these things by paying for indirect costs. The requirement that universities share royalties with inventors, then, is founded on the premise that the inventors have chosen the university as their agent, and the assignment of rights has been negotiated based on agreed upon consideration, not on coercion by the university administration, using its interest in the federal funding agreement as leverage to get more from faculty and other research personnel than in fact it is entitled to claim. The sharing of royalties necessitates a voluntary, mutual agreement, at some point, to assign title to subject inventions.

This issue is particularly acute when the employer is a public university, and the work performed is not expressly within the scope of a faculty member's formal appointment; that is, the faculty member has not been hired to invent so that the university may enjoy the beneficial use of the invention. In the case of federally sponsored research, a faculty member typically has to request approval to participate in such research because the activity requires a release from official duties, not an assignment to the research as an official duty. At best, a university administration might construe the activity of faculty invention to be so that patents in those inventions may be exploited by the university administration to seek income.⁵⁴ In any event, principles of eminent domain may come into play as a state instrument takes ownership of private property for a public purpose. In such a case, the imposition of a royalty sharing schedule is not sufficient to meet the requirement of "just compensation" under the Fifth Amendment.⁵⁵

The royalty sharing established by the university has to do more than satisfy university administrators—it has to be "just." One way to do that is to negotiate a mutually acceptable sharing. Another way is to allow a third party, such as a court, to review the arrangement and find it "just." In any such finding, however, one will have to take into account a common property of royalty-sharing schedules found in university invention policies: the university administration typically has no obligation to pay anything unless it makes money from licensing the invention, and even then, the administration often demands that it recover its own expenses before paying anything to the inventors. Further, these invention policies often do not require university administrators to license an invention, or even to make a reasonable attempt to attract licensees, or if the invention is licensed, to receive payments for the license in the form of cash. It is common now for university invention policies to exclude other forms of consideration, such as research funding or in-kind contributions (such as equipment) that may be consideration for a license—and therefore "royalties," which are defined generally as "any consideration paid for a patent license."

The consequence of these common features of university royalty sharing policies is that a university may demand ownership of a subject invention and never pay even \$1 in compensation. The value of an invention is not what the university might make from exploiting a

patent position after expenses, but rather what value the invention may have in the hands of anyone that the inventor might choose as an agent. Thus, it is not the case that an invention has no value simply because a university administration fails to make more money in licensing fees than it has expended to obtain for itself a patent position and undertake promoting and licensing the patent. The royalty sharing provision of the Standard Patent Rights Clause actually goes further and establishes that payments to inventors are also expenses, not an administratively determined "award" provided by the university as a promotional bonus for participating in the university's "technology transfer program."⁵⁶

In essence, this provision in the Standard Patent Rights Clause regarding royalty sharing is directed at preserving the standing of academic appointments. If a faculty member proposes research to be supported by the government, and a university administration releases the faculty member from other duties in order to pursue that research, then inventions made in that research with federal support would appear to be beyond the ownership claims of a university administration as a condition of employment. That is, a university could not terminate employment simply because an inventor refused to assign a subject invention to the university for administration. The university might obtain title to such an invention, but not because the university has a right to that title as a condition of continued employment of the inventor, but rather because the university administration has negotiated the assignment of title with the inventor in exchange for something of value acceptable to the inventor. The Standard Patent Rights Clause requires that this thing of value include a sharing of royalties—which would reflect the value of the assignment—rather than, for instance, merely an offer of continued employment. That is, by accepting the Standard Patent Rights Clause, a university agrees not to threaten to fire an inventor if he or she refuses to assign a subject invention to the university for management. The conclusion of this analysis of the Standard Patent Rights Clause's royalty sharing requirement is that any agreement to assign a subject invention to a nonprofit contractor has to involve *a negotiated sharing of royalties*, not simply an offer of \$1 and payment of a net share of future income, if and when the university happens to get around to securing such income. Such an arrangement, of course, may be acceptable to an inventor, and even attractive if for instance the inventor's primary interest is to be named on

an issued patent. But such an arrangement may not meet the standard of “just compensation” unless the inventor voluntarily agrees.⁵⁷ Much of logic behind royalty sharing under the Standard Patent Rights Clause is obscured by the wording used in university invention policies. At least part of the reason is that many royalty-sharing schedules were established when assignment to the university was voluntary for inventors. When they chose to assign, they accepted the university’s offer of a schedule for sharing of royalties and qualifications on whether the university would be successful in securing licensing income. One might then see how a claim that Bayh-Dole required assignment of subject inventions might also conveniently leave a voluntary royalty sharing policy text unchanged but substantially change its operation and effect. In this way, universities *changed policies* without *changing the text* of the policies, something that faculty governance of such policies may not have adequately recognized.⁵⁸

There is a further implication of the royalty sharing provision of the Standard Patent Rights Clause. At the time that Bayh-Dole was enacted, university administrations generally established their financial or ownership interest in an invention by examining the equities involved.⁵⁹ If a university administration commissioned research for its own benefit, or had provided additional resources (funding, relief from other duties) beyond the normal resources available, then the university might pursue a claim of equity in an invention. For federally supported research, in which the federal government was paying the full cost of the research—both direct and indirect costs—the university would appear to have no such equity in subject inventions unless there are other circumstances involved. For instance, a university could support development and testing of an invention with special support that is not included in the budget for the federally supported project. Without a finding of equity in a subject invention, the issue is less about how generous a university administration should be with inventors and more about why it is that a university would claim any share of income beyond what is necessary to obtain and manage patents and licensing for a given invention. Any additional share to the university would come about because the inventors desired to share, not because the university administration forced inventors to share.

The (f)(2) written agreement to be required by the university of its research personnel establishes the primacy of these crucial parts of the Standard Patent Rights Clause—reporting, filing patent applications, and assignment and licensing—over any other claims of any university patent policy and any agreement that the university may have imposed on its employees with regard to inventions. Under the Standard Patent Rights Clause, there is no requirement that a university own a subject invention and no special privilege is granted that allows a university administration to take title to a subject invention. The Standard Patent Rights Clause requirement to share royalties with inventors takes this a step further and makes it clear that if an inventor is going to assign title to a university administration, that transaction involves a negotiated arrangement based on the value of the invention, not on continued employment or denial of faculty privileges such as access to the resources necessary to perform the research. It is the expectation of the Standard Patent Rights Clause that the choice of assignment of subject inventions is with the inventors unless they negotiate that choice away. For university employees, under the protections of the Standard Patent Rights Clause, assignment of inventions is to be voluntary and negotiated.

There are, of course, university administrators and legal counsel working for them who will object to the conclusions reached in this discussion of the Standard Patent Rights Clause. The strength of their position, however, must be derived from their ability to address simultaneously the terms of academic employment, the conditions of faculty involvement in federally supported research, and the requirements of the Standard Patent Rights Clause as agreed to by the university. If the inventor of a subject invention assigns title to an invention management agent, then the federal agency funding the research works with that agent on matters of compliance. If the inventors choose not to assign, then the federal agency’s business is directly with the inventors, relying on the (f)(2) written agreement that the inventors have made in response to the university’s requirement that they do so. It is the (f)(2) written agreement that protects the agency from university failures to comply with the Standard Patent Rights Clause and, along with the special royalty-sharing requirement for nonprofits, protects inventors from predatory behaviors such as compelling assignment of inventions by

university administrators based on the fact of federal support, managed by the university, for their research.

Faculty Choices and Subject Inventions

This account of the Bayh-Dole Act and the Standard Patent Rights Clause runs at odds with most current university administrative policy statements and practice with regard to inventions. Indeed, it runs at odds with most publicly available accounts of the Bayh-Dole Act, even summaries of Bayh-Dole made by academics who have taken upon themselves to study university technology transfer. Yet repeated misrepresentation of Bayh-Dole does not alter the law, though the repetitions have surely altered university invention management practice, policies, and aspects of faculty conditions of employment and governance. While a university administration may institute a policy that authorizes the administration to manage inventions made by anyone associated with the university, and individuals may contract privately with the university administration with regard to the disposition of their inventions, the Standard Patent Rights Clause in each federal funding agreement requires universities to put the fundamental matters of invention ownership and government interest ahead of any such arrangements.

Faculty choice in the disposition of subject inventions is not a matter of personal rights (and financial interest) battling with administrative claims (and financial interest), though it may be portrayed at times in this way. The issue in question, rather, has to do with innovation, with the engagement of research activity and a broader community so that there are benefits arising from the support of faculty-led research. The issue, then, is about the disposition of faculty-led discovery and invention, which are two fundamental outcomes that may be anticipated from such research, along with associated ownership positions, such as those of patent and copyright.

In the current, widespread formulation of university invention policy, the claim made is that no discovery or invention can be used by the community (or by industry, or by entrepreneurs, or by investors, or by the inventors themselves outside of the university), unless a university administrator has first obtained institutional ownership of each discovery or invention, established a patent position, and decided who may, and who may not, practice the invention. The basis for the administrative decision,

generally, is on who is conveniently ready to pay the most for rights to the discovery or invention. Typically, this leads university administrators to solicit transactions with speculative interests, who may find more value in a patent right that excludes the community and industry than anyone might otherwise value the invention itself for use in the community (representing professional practice, such as doctors providing treatment) or industry (representing companies willing to use an invention in their operations or develop an invention for sale as or as part of a product). Present standard university invention practice rests on the claim that the Bayh-Dole Act established, as a national research innovation policy, that a bureaucrat representing university interests must touch every significant federally supported scholarly finding before that finding may be used beneficially in a practical setting.

This claim represents an unsettling view of how innovation arises in the context of scholarly activity. Indeed, it is a view that lacks good support in practice. Despite the protestations that university licensing offices are successful—and such offices often point to a handful of patents that have returned substantial revenue—the critique of university ownership of key results of scholarly research runs much deeper. How many inventions have been claimed and patented by university administrators and which have not been licensed, or have been licensed exclusively and never brought to practical application? Every unlicensed or unworked patent is a barrier to practice, scholarship, and innovation—a barrier created by university invention policy focused on seeking windfall money not on faculty support or research impact.

The Standard Patent Rights Clause requires universities (and other contractors) to track the status of subject inventions for which they have obtained title, and be ready to report such status on an annual basis if requested by a funding agency:

Such reports shall include information regarding the status of development, date of first commercial [sic] sale or use, gross royalties received by the contractor, and such other data and information as the agency may reasonably specify.⁶⁰

However, this information has not been generally reported by most universities. The Bayh-Dole Act here works against an understanding of its effect on that diverse network of invention management agents fueled

by faculty choices in how to manage inventions. Bayh-Dole requires that invention status information be held by federal agencies as exempt from FOIA requirements.⁶¹ In the more than thirty years since the Bayh-Dole Act has been in effect, there has never been a substantive account of the inventions for which universities have obtained ownership and what has become of these inventions. The Association of University Technology Managers (AUTM), an organization representing the interests of university licensing professionals, praises the Bayh-Dole Act as pivotal in establishing the present regime of university technology licensing offices. AUTM publishes an annual survey of licensing activity, but that survey has never identified separately the activity involving subject inventions. There is no documented evidence on which to establish that university policies requiring the institutional assignment of inventions have been successful. The argument on inspection appears deeply flawed that for the public to benefit from faculty-led research, a university administrator must be inserted in every possible transaction involving an invention. The burden, therefore, is on university administrations to document the effect of the compulsory invention ownership policies and patent licensing practices for which they have advocated.

University faculty have the opportunity, in the wake of the Supreme Court decision in *Stanford v. Roche*, to revisit the present formulation of invention policies pertaining to federally supported work, rationales for university involvement in patent licensing, the reporting of university patent and licensing activity, and the impact of that activity, including the impact of unlicensed and unworked inventions for which the university has claimed ownership, on the economy as well as on practice and interchange between faculty and the broader community.

One line of advocacy is to require an audit of university patenting and licensing activity under the Standard Patent Rights Clause authorized by the Bayh-Dole Act. Examine that activity for compliance with the Standard Patent Rights Clause. Has the Bayh-Dole Act and the Standard Patent Rights Clause been properly represented in policy and educational materials published by the university administration? Has the university required the (f)(2) written agreement of research personnel, or has the university instead substituted a different document that requires assignment of subject inventions to the university? What is the status of each subject invention for which a university has claimed

ownership? Such information can be reported and evaluated without compromising patentability of subject inventions, patent prosecution, or the particulars of licensing arrangements, to the extent there is a reason for such information to remain secret. It is important, however, that the information is reported invention by invention, and not merely in aggregate numbers that bundle together disparate transactions to create an impression of activity, or by means of averages which suppress information about the distribution of activity. For instance, a university might report 100 “commercialization” licenses in a given year, which might sound impressive. However, AUTM defines a “commercialization” license as any transaction involving a payment of \$1,000 or more. Thus, any number of software or biomaterial transfer transactions can be included in the total, and one would have no idea how many patented inventions had been licensed for commercial use or development as a product.

Similarly, a report of the number of patent applications in a year may obscure the fact that a single invention may give rise to a provisional patent application, a refiling as a full utility application, which in turn may be subject to a restriction requirement and split into multiple applications by the Patent Office, and may further be augmented by filing additional applications as continuations and continuations in part, and still further augmented by the filing of Patent Cooperation Treaty applications associated with any of the other applications, and which may be followed some months later by national phase applications in any of the countries selected under the PCT application. One might then see how a single invention might come to be reported in an aggregated list multiple times, over multiple years, giving the appearance that many inventions are being managed for patent work, when the reality may be very different.

Faculty can also question the basis of university patent policy in ownership. Prior to the Bayh-Dole Act, the dominant concept was invention equity, and that equity was most often established on behalf of the university by a faculty committee rather than by administrative fiat, based on a review of circumstances beyond those of the normal academic environment—special commissioning arrangements for inventive work, or substantial use of funds dedicated to the development of the invention, or administrative time and expertise

provided in support of research or inventive work. Invention equity was the foundation for the diverse approach to the disposition of inventions before Bayh-Dole. Revisiting invention equity opens up a range of opportunities for faculty to become involved again in considering how the patent system might be used, when it is used at all, to advance scholarly interests, impact on those who should benefit from publicly funded research, and personal opportunities to develop, use, and transfer for use inventions to others. In some cases, a university licensing office may be an appropriate agent for such work. In an invention equity environment, however, the decision on ownership remains with the inventors, not with administrators

In the development of university patent policies over the past century, university faculty acting collectively have played an important role. That role was largely displaced by the claim that the Bayh-Dole Act dictated university ownership and management for commercialization. In a university invention policy regime based on equity in inventions established on behalf of the university, the role of faculty governance is brought again to the forefront. It is the faculty who properly should review circumstances of faculty inventions and university support and decide on the merits. Such decisions do not require an intricate knowledge of patent law; regardless of how an invention is managed, the faculty can examine the circumstances of institutional support and make a determination of what is reasonable for a university to receive, whether it is a license to practice, a reimbursement of specially allocated funds or for use of supplies and equipment, a sharing of financial proceeds from licensing, or in some cases, even assignment of the invention to the university, if that appears best to address the equities of the situation.

Various alternatives can limit the need to evaluate such equities: an inventor may choose to provide a share to the university, and the faculty and administration can judge that to be satisfactory, if not generous; an inventor can choose to use an invention management agent recommended by the university, and with which the university has an arrangement regarding licensing income independent of any arrangement that the inventor might work out with the invention management agent. An inventor may even choose to assign an invention to the university, accepting a pre-stated schedule on the disposition of income in the process. Thus, the amount of

work to establish equity can be very reasonable, and well worth the advantages offered by restoring to faculty choices in the disposition of the inventions that they make.

For faculty at public universities, there is an opportunity to use state law to remove university administrative compulsory claims to ownership. “Freedom to Innovate” legislation can be used to forbid state universities from claiming ownership of inventions. Such legislation, as has been proposed in Washington state,⁶² would get state universities out of the same arbitrary policy claims for ownership of faculty inventions that dogged federal agencies prior to the passage of the Bayh-Dole Act. With a simple bill, a state could restore the independence of faculty with regard to their scholarship when it takes inventive forms.

As Steven Johnson has argued⁶³, over the past century much of the important innovation has been strongly correlated with networked, non-market interactions, of the form that characterize university scholarship. A similar case, made from a different line of reasoning, is made by Henry Chesbrough in characterizing “open innovation.”⁶⁴ Works such as these remind us that innovation tends not to be from exploitation of advantages by an established order, but rather as Benoît Godin has shown, innovation represents changes introduced into the established order.⁶⁵ Faculty making choices with regard to the ownership of their inventive scholarship are better situated to pursue innovation than are administrators embedded in an institution. It is this freedom of choice that Vannevar Bush⁶⁶ emphasized in proposing the federal initiative that became the National Science Foundation, and that President Eisenhower⁶⁷ warned we should be mindful of as federal funding at universities ramped up and threatened to swamp out independent inquiry, and that more recently Michael M. Crow⁶⁸ has considered in the autonomy that universities must rediscover in the context of federally sponsored research at universities.

The Bayh-Dole Act was to have allowed more federally supported inventions made in university research to move into a robust network of invention management resources. The enabling regulations and the Standard Patent Rights Clause authorized by the Bayh-Dole Act respected the choices that faculty investigators might make with regard to invention management. These

conditions offered faculty a tremendous opportunity to engage their communities through a variety of initiatives, backed by the research resources of the federal government. Instead, this opportunity has been largely foreclosed using arguments at the level of university administrations that are similar to those used by federal agency administrations: that the institution must own inventive work, and determine its disposition. History, reason, and opportunity teach otherwise.

Notes

¹ Public Law 96-517, 35 USC 200-212.
<http://www.law.cornell.edu/uscode/text/35/200> All internet links provided in the notes were last visited 7/8/2013.

² The Act was later extended by executive order to apply to all federal research contracting. The Act has been amended a number of times. Early accounts of the Act may therefore be unreliable. Federal laboratories are subject to the Stevenson-Wydler Act.
<http://uscode.house.gov/download/pls/15C63.txt>

³ These regulations are found at 37 CFR part 400. The standard patent rights clause (SPRC) used in most funding agreements with universities is at 37 CFR 401.14(a).
<https://s-edison.info.nih.gov/iEdison/37CFR401.jsp>

⁴ The patent rights clause is implemented for grants and other awards to universities by 2 CFR 215.36(b) (formerly OMB Circular A-110).

⁵ “This part implements [sic] 35 U.S.C. 202 through 204 and is applicable to all Federal agencies” 37 CFR 401.1(b).

⁶ A note on terminology. The environment in which faculty conduct research supported by the federal government is necessarily complex, both in terminology and relationships. At the risk of failing to carry the extended nuances and qualifications into every sentence, or draining the prose of any specificity by retreating to generalities as discussing everything rather than university faculty interests in particular, the paper adopts a rule of reasonable reference. For those who value precision and abstractions over readability, the following discussion pertains.

A federal agency that supports research at a university is a “funding agency” or “agency.” Such agencies are responsible for managing their support to universities. The rights in inventions that agencies obtain, however, are for the federal government generally and are not restricted to an agency that has supported the research under which the invention was made. Where “government” refers to anything other than “federal government” the text will note it.

The instrument by which the government provides support is the “funding agreement” but the implementing regulations for Bayh-Dole define a “contractor” as any party to a funding agreement. In the regulations specific to university and nonprofit awards (2 CFR 215), the term used is “recipient.” In the Federal Acquisition Regulations (or FARs), the funding agreement takes the form of a federal contract. Other forms of funding agreement are grants and cooperative agreements. In any of these usages, the common thread is that the agreements are bilateral, involve exchange for value, are voluntarily entered into, and are federal in nature. They all are, in essence, federal contracts, enforceable on those agreeing to their terms. Thus, funding agreement and contract are used as the context suggests. Some funding agreements are contracts, and all funding agreements have the attributes of federal contracts.

As for the entities involved in such contracting, these may be persons, companies, universities, nonprofits, and the like. Bayh-Dole as originally passed was specific for nonprofits, including universities, and small businesses. Its scope was later expanded by executive order to include all forms of organizations that receive government support for research. The focus of Bayh-Dole, however, was always on universities and the various invention management agents that fronted university patent and licensing work. Government research support for small businesses was all but non-existent. For practical purposes “contractor” meant “university” or “nonprofit front for university.” Since the purpose of this paper is to discuss the Bayh-Dole Act and Standard Patent Rights Clause from a faculty perspective, it will use contractor or university as the context indicates. Readers should be mindful that there are applications of the implementing regulations to other organizations as well, such as small businesses, large businesses, nonprofits not affiliated with universities, and the like.

Finally, various terms can be applied to those doing the research and inventing. At universities, most federally sponsored research is led by faculty “principal investigators.” These investigators and other paid personnel under a funding agreement are often also employees of the university. However, they are not necessarily “employees” of the university with reference to the inventions they make in the context of federal funding agreements. That is, the university does not act in the manner of an employer with regard to such work: university administrators do not propose the work, assign the work, determine the conduct of the work, review or approve the work, and do not expect the work to be of use to the university. Those doing the work within the “planned and committed” activities of a federally

supported project can be referred to as “research personnel” or “investigators.” The (f)(2) requirements of the Standard Patent Rights Clause apply to a university’s employees other than clerical and non-technical employees. Trustees, regents, volunteers, informal collaborators, and independent contractors are not employees. This paper refers at times to those individuals who are required to make a written agreement to protect the government’s interest in inventions as “research personnel.” It should be understood that any number of collaborators in research are not university employees and are not required to make any agreement to protect the government’s interest, even if they might invent while associated with the work under a funding agreement.

⁷ At the time that Bayh-Dole was passed, the SBIR program for small business research had not been implemented. The focus of the Act was on university contracting. The inclusion of nonprofits was necessary to encompass the variety of university approaches to federal contracting, since some universities and university systems handled extramural research through an affiliated nonprofit research foundation.

⁸ SPRC (a)(2). The phrase “of a contractor” refers to ownership, not agency. See the Supreme Court decision in *Board of Trustees of the Leland Stanford Junior University v. Roche Molecular Systems, Inc., et al.*, pp. 9-11.

⁹ SPRC (c)(1) and (f)(2).

¹⁰ SPRC (f)(2).

¹¹ SPRC (c)(1).

¹² SPRC (c)(2).

¹³ SPRC (f)(2).

¹⁴ SPRC (g).

¹⁵ SPRC (f)(5) and (f)(7).

¹⁶ For “planned and committed” scope, see 37 CFR 401.1(a).

¹⁷ 35 USC 261. See the Manual of Patent Examining Procedure (MPEP), 301.

<http://www.uspto.gov/web/offices/pac/mpep/s301.html>

¹⁸ Article I, Section 8.

http://ipmall.info/hosted_resources/lipa/patents/ArtI_Sec8.pdf

¹⁹ See the Patents Act of 1977, 39(1). Available at <https://ipo.gov.uk/patentsact1977.pdf>

²⁰ The requirement is particularly important in the case of universities, since the government cannot assume that a university has an invention policy, or that this policy requires assignment of inventions to the university, or that faculty, in participating in federally supported research, are even within the scope of a university administration’s claim on invention ownership based on their employment.

²¹ “Research personnel” and “potential inventors” are used here as a shorthand for “employees, other than clerical and nontechnical employees” as stipulated in SPRC (f)(2). It is of note that the federal procurement

clause does not reach to inventions that may be made by clerical or nontechnical workers, or to volunteers, informal collaborators, and other non-employees. There is therefore no obligation on the part of a university to require assignment from such personnel in order to comply with the Standard Patent Rights Clause—nor even to require such personnel to make an agreement to protect the government’s interest.

²² SPRC (g). Note that in (g), a contractor is forbidden from making any claim on a subcontractor’s inventions as a condition of awarding the subcontract. The award of federal money is not to be used as leverage to obtain an interest in inventions. This principle is consistent with the implementation of the (f)(2) agreement for faculty. Under 37 CFR 401.9, if inventors are allowed to retain ownership of their inventions, agencies are to treat the inventors as if they were small business contractors. In essence, (f)(2) acts as a limited subcontract from the contractor to research personnel with regard to reporting inventions, filing patent applications, and establishing the government’s rights. The (f)(2) agreement operates by substituting research personnel for the contractor for those actions that only the research personnel can accomplish after they invent: they only will know they have invented, and they only can sign the paperwork under which they declare that they have invented, and they only have rights to their invention, unless and until they assign those rights to another.

²³ See the definition of “funding agreement” at 37 CFR 401.2(a). Funding agreement “also includes any assignment, substitution of parties, or subcontract of any kind entered into for the performance of experimental, developmental, or research work under a funding agreement. . . .” A contractor is defined at 37 CFR 401.2(b) as “any person, small business firm or nonprofit organization which is a party to a funding agreement.” Thus, when a university requires research personnel to make a written agreement to protect the government’s interest in inventions, this requirement has the effect of a conditional substitution of the inventor for the contractor for the limited purposes of reporting inventions, signing paperwork for applications, and signing paperwork for establishing the government’s rights.

²⁴ Under 35 USC 202(d), the agency may allow the inventors to retain ownership of their inventions “after consultation with the contractor.” There is nothing to indicate that such consultation is anything other than advisory. That is, the contractor has no power to dictate agency decisions.

²⁵ It is in this way that an invention is also a “subject invention” even when not owned by the university-as-contractor: the invention is still “of a contractor”—just, for the purposes of (f)(2), that contractor is the inventor as a substituted party in the funding agreement for limited purposes within the standard patent rights clause. This is,

of course, a technicality, but it is a precise and necessary technicality, one that enables the operation of the entire standard patent rights clause, which in turn is the primary work product authorized by the Bayh-Dole Act. Without (f)(2) compliance, technically—and legally—no faculty inventor makes a subject invention when working with federal support. Such an invention would only become “subject” if a university contractor came to own it. The requirements of disclosure, assignment, and the like, then fall entirely on the policies, practices, and written instruments of the university administration. This is how it arises that university administrators insist that they must have draconian policy requirements with regard to ownership of inventions “to comply with Bayh-Dole.” But that demand for “compliance” comes only after university administrators have failed to comply with the standard patent rights clause. It is apparent that administrators are attracted to the draconian measures, and use their non-compliance with (f)(2) to arrive at a position that allows them to assert the need for complete control over faculty scholarship “just in case.”

²⁶ See 37 CFR 401.9, which augments 35 USC 202(d). This is another instance in which merely reading the Act will not provide sufficient guidance into the operation of the Standard Patent Rights Clause. 37 CFR 401.9 is a second standard patent rights clause, specific to inventors when they do not assign their inventions to approved invention management agents and the federal agency allows the inventors to retain ownership (that is, the federal agency does not request assignment under the commitments the inventors have made in the (f)(2) agreement). A third standard patent rights clause is at 37 CFR 401.14(b) and concerns certain Department of Energy funding agreements.

²⁷ See Rebecca Eisenberg, “Public Research and Private Development: Patents and Technology Transfer in Government-Sponsored Research,” *Virginia Law Review*, 82(8), 1663-1727.

²⁸ See “University patent policies then and now” at Research Enterprise: <http://rtei.org/blog/2013/04/28/university-patent-policies-then-and-now/>

Archie M. Palmer, University Research and Patent Policies, Practices and Procedures. National Academy of Sciences--National Research Council Publication 999, 1962. Available at <http://books.google.com/books?id=OTgrAAAAYAAJ&pg=PA296&lpg=PA296&dq=university+research+and+patent+policies+archie+palmer&source=bl&ots=r5ttUvGxnu&sig=mmWnhXHzdw5nAJMRKUtUnVwLw7l&hl=en&sa=X&ei=J1PaUYa4OsXHigKcpYHIAw&ved=0CC8Q6AEwATgK>

²⁹ See the discussion by David C. Mowery, Richard R. Nelson, Bhaven N. Sampat, and Arvids A. Ziedonis, *Ivory Tower and Industrial Innovation: University-Industry*

Technology Transfer Before and After the Bayh-Dole Act. Stanford Business Books, 2004, p. 75f.

³⁰ The objectives stated by Congress for Bayh-Dole are at 35 USC 200, available at <http://www.law.cornell.edu/uscode/text/35/200>. Three distinct sets of purposes for Bayh-Dole can thus be identified: the formal statement of objectives in the Act; the rationale for bringing more federally supported inventions into an apparently effective network of non-federal invention management agents, and within that network, an agenda to undermine the position of Research Corporation and its national model in favor of university-based or affiliated, self-interested licensing programs.

³¹ Advocates of Bayh-Dole claimed university licensing rates of “25 percent to 30 percent” while federal agency licensing rates were “fewer than 5 per cent.” See General Account Office, *Technology Transfer: Administration of the Bayh-Dole Act by Research Universities* (1988) Report RCED-98-126, p. 3. There is no documentation for the figures, which appear to be estimates, and appear to report rather different rates, based on very different circumstances. The government’s use of patents was not necessarily to promote the development of commercial products under situations most advantageous to speculative patent brokers or investors.

³² See SPRC (b) for retention of title by the contractor. See SPRC (k)(1) for assignment to an approved invention management agent. Note, the agreement by a contractor with regard to assignment extends to potential inventors when they make the (f)(2) written agreement. SPRC (k)(1) does not say that inventors have no right to assign their inventions, or that their employer solely controls such rights merely by agreeing to a provision in a funding agreement.

³³ Under Bayh-Dole, the patent system is to be used to promote the practical application of each subject invention claimed by a contractor. Thus, the “success” of any program of subject invention management must be evaluated invention by invention. There is no foundation in Bayh-Dole for a “portfolio” view of patents, in which the financial success of a handful of patents justifies the inaction or even suppression of development of other inventions. There is, in other words, nothing in Bayh-Dole that promotes the idea that many inventions and associated patents may be held to promote the financial success of a few “big hit” licensing deals.

³⁴ Board of Trustees of the Leland Stanford Junior University v. Roche Molecular Systems, Inc, et al. The decision is here: <http://www.supremecourt.gov/opinions/10pdf/09-1159.pdf> A useful compendium of the amicus briefs filed by various organizations, including many universities and front organizations operated by university administrators is at IP Advocate:

<http://www.ipadvocate.org/press/stanfordvroche.cfm> A

summary of the decision that shows the extent of the rejection is at Research Enterprise “Getting it clear on the Stanford v Roche decision”

<http://rtei.org/blog/2012/03/28/getting-it-clear-on-the-stanford-v-roche-decision/>

³⁵ See “15 arguments for the university innovation machine...and why they are wrong” at Research Enterprise: <http://rtei.org/blog/2013/02/06/15-arguments-for-the-university-innovation-machine-and-why-they-are-wrong/>

³⁶ See, for instance, the University of California administration’s argument for imposing a new “Patent Acknowledgement” agreement that requires upfront or “present” assignment of all future inventions. “Background on the UC Patent Acknowledgment” at http://atyourservice.ucop.edu/employees/policies_employee_labor_relations/patent-acknowledgment/

³⁷ See “Present Assignment Agreements, the Coming Nightmare for University IP Practice” at Research Enterprise: <http://rtei.org/blog/2012/02/19/present-agreements-the-coming-nightmare-for-university-ip-practice/>

³⁸ SPRC (b).

³⁹ SPRC (c)(3).

⁴⁰ SPRC (d)(2) and (d)(3).

⁴¹ SPRC (f)(3)

⁴² SPRC (f)(4)

⁴³ SPRC (f)(6)

⁴⁴ SPRC (h)

⁴⁵ SPRC (i)

⁴⁶ SPRC (a)(3), (e)(2), (j)(1), (k)(4).

⁴⁷ SPRC (i).

⁴⁸ Indeed, one of the primary advocates for the Bayh-Dole Act was the Wisconsin Alumni Research Foundation, which faced at least two federal government actions for antitrust in the licensing of inventions. See for example “Antitrust Suit Names Madison Foundation” Milwaukee Journal, December 31, 1969, p. 20 available at <http://news.google.com/newspapers?nid=1499&dat=19691231&id=MOMqAAAAIBAJ&sjid=PCgEAAAAIBAJ&pg=7428,4289195>. The statement of objectives for Bayh-Dole call out such behaviors: “to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise without unduly encumbering future research and discovery;...” Mowery et al. discuss other criticisms of WARF’s licensing practices.

⁴⁹ SPRC (k)(1).

⁵⁰ SPRC (k)(2).

⁵¹ SPRC (k)(3).

⁵² SPRC (k)(4).

⁵³ Thus, oddly, a university contractor is allowed to assign a subject invention to a firm specializing in asserting patent rights against industry (such as a patent “troll”), but not to a company that would use the patent as part of, say,

its manufacturing portfolio, for which a university would have to first obtain funding agency approval.

⁵⁴ See for instance laws in various states that attempt to preclude such predatory behavior by employers, with the ambiguity of such laws when applied to university faculty in relationship to a technology licensing office.

California Labor Code Section 2870 to 2872 at <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=lab&group=02001-03000&file=2870-2872> and Washington Revised Code 49.44.140-150 at

<http://apps.leg.wa.gov/rcw/default.aspx?cite=49.44.140>.

For a contrasting treatment, with apparent effect not quite what has been claimed, see Ohio Revised Code 3345.14 at <http://codes.ohio.gov/orc/3345.14>

⁵⁵ “No person shall...be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.”

⁵⁶ SPRC (k)(3): “The balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (*including payments to inventors*) incidental [sic] to the administration of subject inventions...” (emphasis added).

⁵⁷ In other countries, patent or labor laws expressly take up requirements that employers provide a “fair share” of royalties to employee inventors, such as in the UK Patents Act of 1977, Section 41(1). Some patent laws, such as France’s, go into considerable detail on how such determinations are to be made. See for instance Thomas Bouvet, “Employee-Inventor Rights in France.” Loyola Law School IP Special Focus Conference. Available at http://www.veron.com/publications/Colloques/Employees_inventions.pdf

⁵⁸ A similar change took place in research contracting policies. A common requirement in such policies is that faculty (and all employees) are required to comply with all terms and conditions of extramural contracts for research, which terms and conditions when accepted by the university also supersede other university policies to the contrary. When university administrators insisted that Bayh-Dole required assignment of subject inventions, the administrators could enforce their claim through this compliance requirement of research policy, without making any express change in invention policy to establish the requirement to assign and the governing authority for the change. Administrators could simply decide what they wanted the funding agreement to mean, and enforce that decision on faculty when it suited them. Similarly, many university administrators have established a practice of insisting on university ownership of inventions made in non-federal extramural research, and then using the compliance provision in research policy to enforce that ownership claim on faculty and other inventors, again without the need for expressly

granted authority to do so with the concurrence of a faculty governance body.

⁵⁹ For a discussion of invention equity, see “Equity Policies and Ownership Policies” at Research Enterprise: <http://rtei.org/blog/2013/05/28/equity-policies-and-ownership-policies-part-i/>

⁶⁰ SPRC (h).

⁶¹ See 35 USC 202(c)(5).

⁶² See Washington State Legislature SB 5247 - 2013-14 at <http://apps.leg.wa.gov/documents/billdocs/2013-14/Pdf/Bills/Senate%20Bills/5247.pdf>

⁶³ *Where Good Ideas Come From: The Natural History of Innovation*. Riverhead Books, 2010.

⁶⁴ *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business Review Press, 2005.

⁶⁵ Benoît Godin, “Innovation: The History of a Category.” Project on the Intellectual History of Innovation, Working Paper No. 1, 2008. Available at <http://www.csiic.ca/PDF/IntellectualNo1.pdf>

⁶⁶ Science the Endless Frontier. 1945 Available at: <https://www.nsf.gov/od/lpa/nsf50/vbush1945.htm>

⁶⁷ Farewell Address to the Nation, January 17, 1961. Available at: <http://mcadams.posc.mu.edu/ike.htm>

⁶⁸ For instance, “Enterprise: The Path to Transformation for Emerging Public Universities” in *The Presidency* (2007) 24-30. Available at: <http://www.aplu.org/document.doc?id=1963>