

Ties that Bind: Conflicts of Interest in University-Industry Links

In the midst of this universal tumult — this incessant conflict of jarring interests — this continual striving of men after fortune — where is that calm to be found which is necessary for the deeper combinations of the intellect?

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INTRODUCTION

In recent years, private industry has increased its financial support of scientific research conducted at public and private universities.¹ Reports of multi-million dollar research contracts have prompted public debate about the potential for conflicts of interest arising from a variety of university-industry affiliations.² Critics of these links call for legislation

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¹ NATIONAL SCIENCE FOUND., UNIVERSITY-INDUSTRY RESEARCH RELATIONSHIPS: MYTHS, REALITIES AND POTENTIALS 7 (1982) ("in constant 1972 dollars industrial support for academic research doubled between 1966 and 1978") [hereafter NSF REPORT].

NSF estimates that the corporate contribution to academic research and development was between \$400-450 million in 1980-81, six-seven percent of the total sum spent on academic research. These figures do not include the dollar value of faculty consulting, an important component of industrial support of university research. *Id.* at 27.

At the University of California, 1978-81, industrial support amounted to four-five percent of the expenditures for sponsored research, concentrated in the fields of agriculture, business, chemistry, engineering, medicine, and biology. UNIVERSITY OF CALIFORNIA, REPORT OF THE UNIVERSITY-INDUSTRY RELATIONS PROJECT 1 (1982) (copy on file at U.C. Davis Law Review office). Corporate support amounted to \$24 million in 1978-79; in 1980-81, it had grown to \$42 million. University administrators foresee a maximum increase of industrial support to about eight-ten percent of research monies. *Id.*

² For example, the presidents of five American universities met, in a conference closed to the public, with certain leading scientists and industry executives at Pajaro Dunes, California in 1982 to consider the issues of conflicts of interest and other problems arising from university-industry ties. *Business Boom Sparks Big Bio-Ethics Meeting*, San Francisco Chron., Mar. 19, 1982, at 30, col. 1. See generally *Pajaro Dunes Conference Draft Statement*, 9 J.C. & U.L. 533 (1982-83). The Statement has been criticized as "a statement whose omissions are more significant than its content." *Does Biotechnology Have a Price?*, 296 NATURE 479, 479 (1982). For a discussion of some highly publicized university-industry links, see *infra* notes 17-22; see also Cul-

to prevent university research scientists from improperly using public monies and facilities.³ Opponents of state regulation respond that conflict of interest regulation traditionally is a matter of internal academic affairs protected from state interference by principles of academic freedom.⁴

The debates have been especially spirited in California where a state regulatory agency, the Fair Political Practices Commission (FPPC),⁵ amended conflict of interest regulations in 1982 to include certain university researchers.⁶ When researchers at California's public universities submit project applications for approval or renewal, the regulations require disclosure of their financial interests in the private entities that sponsor their research.⁷ In compliance with the regulation, the University of California (UC) revised its conflict of interest code and instituted

liton, *Biomedical Research Enters the Marketplace*, 304 *NEW ENG. J. MED.* 1195 (1981); Dickson, *Clouds on Biotechnology Horizon*, 296 *NATURE* 3 (1982); Dickson, *Conflicts of Interest: Tighter Controls*, 293 *NATURE* 503 (1981); Peterson, *Academic Questions: Campus and Company Partnerships*, 123 *SCIENCE NEWS* 76 (1983); Crittenden, *Industry's Role in Academia*, *N.Y. Times*, July 22, 1981, at D1, col. 2.

³ See Potential Conflicts of Interest Among University of California Academic Personnel: A Comment to the Fair Political Practices Commission (1981) (filed by A. Meyerhoff, R. Abascal, T. McCarthy & R. Hawk of California Rural Legal Assistance, & P. Barnett) (copy on file at U.C. Davis Law Review office) [hereafter FPPC Petition]; *infra* notes 68-70 and accompanying text.

⁴ For example, the UCLA conflict of interest review committee was reluctant at first to comply with the state regulation, *CAL. ADMIN. CODE* tit. 2, R. 18,705 (1982), asserting that disclosure of their deliberations would violate professors' academic freedom. *UCLA Conflict Rules Will Be Investigated: Panel Orders Full Probe After Disclosure That Data on 23 Professors Was Withheld*, *L.A. Times*, Aug. 3, 1983, pt. 1, at 3, col. 5.

⁵ The California Political Reform Act of 1974 established the FPPC as an agency of state government to administer and implement conflict of interest provisions of the Act. *CAL. GOV'T CODE* § 83111 (West 1976).

⁶ *CAL. ADMIN. CODE* tit. 2, R. 18,705 (amendment filed June 4, 1982):

(b) Disclosure shall be required under Government Code Section 87302 or any Conflict of Interest Code in connection with a decision made by a person or persons at an institution of higher education with principal responsibility for a research project to undertake such research, if it is to be funded or supported, in whole or in part, by a contract or grant (or other funds earmarked by the donor for a specific research project or for a specific researcher) from a nongovernmental entity

The regulation applies to the University of California system of nine campuses and to the California State Universities and Colleges. For a discussion of the legislative enactment of these systems of higher education, see *infra* note 66 and accompanying text.

⁷ *CAL. ADMIN. CODE* tit. 2, R. 18,705 (amendment filed June 4, 1982).

a systemwide financial disclosure procedure.⁸ Researchers at UC now must disclose significant financial interests in the private sponsors of their research at the time they apply for university approval or renewal of their projects. Although this disclosure requirement affects only a small portion of the funds supporting research at UC's nine campuses, it has met with a mixed response from the faculty.⁹ A vocal minority has criticized the regulation as an unjustifiable intrusion on academic freedom and individual privacy.¹⁰

This Comment explores the dynamics of conflicts of interest stemming from faculty ties to industry, focusing in Part I on the social and historical context of university-sponsored scientific research. The analysis in Part II of university regulation of conflicts of interest uses UC as an exemplar. Part III continues with an examination of state regulation of potential conflicts of interest at UC and potential intrusions on financial privacy and academic freedom, concluding that the present financial disclosure rules represent a reasonable and minimal intrusion furthering the state's interest in assuring that public monies are expended only for public purposes. This Comment urges that university enforcement of state financial disclosure requirements, as practiced in California, provides a useful model for regulating conflicts of interest in university research but does not fully address the scope of the problem. Part IV proposes that federal support of university research be made contingent upon financial disclosure by researchers.

I. UNIVERSITY SPONSORED SCIENTIFIC RESEARCH

Since World War II, federal and state governments have funded almost all scientific research conducted at both public and private universities.¹¹ Historically, private industry has supported only a small por-

⁸ The transactional procedure requires disclosure only when a researcher submits an application for project approval or renewal. Each campus selects a conflict of interest committee composed of faculty members to review the disclosure reports. At the University of California, Davis, the committee has at least one student member. The University of California, San Francisco, committee has public members. Interview with Robert Leidigh, Staff Attorney, FPPC, in Sacramento (June 22, 1983). For a discussion of the function of the review committees, see *infra* notes 73-76, 114-18 and accompanying text.

⁹ See *supra* note 4.

¹⁰ See *supra* note 4; see also *infra* Part II.

¹¹ NSF REPORT, *supra* note 1, at 27-28.

World War II stimulated substantial government funding of scientific research in the interest of national defense and defense-related health problems such as neurological injury, tropical diseases, and the transport and storage of blood plasma. By 1950, the

tion of such research.¹² However, government funding has declined significantly as a result of recent shifts in federal policy,¹³ and basic research,¹⁴ particularly in biology and chemistry, has become suddenly

federal government funded more than 83% of the research in natural sciences. Thus, government funding has financed the development of research departments, equipped laboratories, paid the salaries of support staff, purchased supplies and materials, and provided for the training of researchers. King, *Erosion of Biomedical Research Through Unregulated Commercialization*, in AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE SYMPOSIA: COMMERCIAL GENETIC ENGINEERING (S. Krinsky ed. 1982) (copy on file at U.C. Davis Law Review office).

¹² In the late 19th century, American educators who had studied in the great European universities established uniquely American universities by incorporating undergraduate colleges with graduate and professional schools. These schools sought to equip graduates with the latest knowledge for practical application and to develop their capacity to add to the general store of knowledge. T. PARSONS & G. PLATT, *THE AMERICAN UNIVERSITY* 349-56 (1973); see also J. BEN-DAVID, *AMERICAN HIGHER EDUCATION: DIRECTIONS OLD AND NEW* 5-9 (1972). Concurrently, industrialization and westward expansion created an urgent need for higher level vocational training and agricultural research. J. BRUBACHER & W. RUDY, *HIGHER EDUCATION IN TRANSITION: A HISTORY OF AMERICAN COLLEGES AND UNIVERSITIES, 1636-1976*, at 61-64, 153-68 (1976) [hereafter BRUBACHER & RUDY]. In 1862, the Morrill Act provided for the donation of public lands to the states for the purpose of establishing agricultural and mechanical colleges. Ch. 130, 12 Stat. 503 (1862) (current version at 7 U.S.C. §§ 301-349 (1982)). The Morrill Act was followed by the Hatch Act of 1887, which provided a basis of tax support for the agricultural experiment stations to disseminate knowledge and sponsor original research. Ch. 314, 24 Stat. 440 (1887) (current version at 7 U.S.C. §§ 361a-361i (1982)). The Adams Act of 1906 expressly provided for the funding of original research. Ch. 951, § 1, 34 Stat. 63 (1906) (current version at 7 U.S.C. §§ 361c-361e, 361g, 361i (1982)).

In the early 20th century, some philanthropic support came from individuals and large foundations such as the Rockefeller Foundation and the Carnegie Institute of Washington. NSF REPORT, *supra* note 1, at 2. Occasionally industry contributed a small portion of funds for contracted research projects.

¹³ D. BOK, *THE PRESIDENT'S REPORT* 8-10 (1979); see also N.Y. Times, Jan. 10, 1982, at 34. One observer estimates that federal funding of research and development at universities declined from a peak of 73.5% in 1966 to 65.1% in 1981 while industry's share increased from 2.4% to 3.8% in the same period. Fowler, *University-Industry Research Relationships: The Research Agreement*, 9 J.C. & U.L. 515 (1982-83).

¹⁴ Basic research has been defined as "original investigations for the advancement of scientific knowledge . . . which do not have specific objectives." NATIONAL SCIENCE BOARD, *SCIENCE INDICATORS* 53 (1975). One study comparing the contributions of basic versus applied research to advances in biomedical science classified "research as basic when the investigator, in addition to observing, describing, or measuring, attempts to determine the mechanisms responsible for the observed effects . . ." Comroe & Dripps, *Scientific Basis for the Support of Biomedical Science*, 192 SCIENCE 105, 109 (1976).

very profitable.¹⁵ In consequence, industry has actively sought to establish ties with major research universities nationwide by means of research grants and contracts, sometimes amounting to millions of dollars. With few exceptions,¹⁶ universities have welcomed the opportunity to bolster declining research budgets with this infusion of funds from the private sector.

The resulting affiliations take many forms. Some companies provide research grants to university researchers for specified projects.¹⁷ Others fund the operations of entire university departments or research institutes that function interdependently with university departments.¹⁸

¹⁵ The laboratory procedure of recombining strands of DNA, for example, may make it possible to produce a variety of products formerly made only by living cells. The low cost production of artificial insulin and interferon could revolutionize health care. Other biotechnology products, such as microbes that eat mineral matter, may be used to control oil spills. There may even be computer uses with the development of microchip circuitry at the molecular level. Sanger, *Corporate Links Worry Scholars*, N.Y. Times, Oct. 17, 1982, at F4, col. 1; see also Culliton, *supra* note 2, at 1195. For a comprehensive review and discussion of university-industry relations, see Bouton, *Academic Research and Big Business: A Delicate Balance*, N.Y. Times, Sept. 11, 1983, § 6 (Magazine), at 63.

¹⁶ Harvard University, for example, decided not to found its own genetic engineering company, although it does accept grants from private sources. See D. BOK *supra* note 13. Professor Bok, president of Harvard University, presided over the deliberations in which the University decided not to proceed with plans for founding a company in order not to "endanger its primary commitment to learning and discovery." *Id.* at 29.

¹⁷ For example, Yale University signed a \$1.1 million three year contract with Celanese Corp. to conduct basic research on enzymes useful in chemical and fabric production. Sanger, *Business Rents a Lab Coat and Academia Hopes for the Best*, N.Y. Times, Feb. 21, 1982, at 7, col. 1. Mallinckrodt, Inc. contracted to fund research at Washington University for \$3.8 million in a three year agreement that gave Mallinckrodt copies of all resulting scientific papers before publication. Exxon is funding combustion research at the Massachusetts Institute of Technology for \$8 million. Harvard University signed a \$6 million agreement with DuPont for genetic research. Westinghouse gave \$5 million to Carnegie-Mellon University to fund the Robotics Institute, in return for first patent rights on research findings. TIME, Sept. 28, 1981, at 63. Allied Chemical gave UC Davis \$2.5 million for a plant genetics project. Lindsay, *Universities + Business =*, Christian Science Monitor, Oct. 29, 1982, at B1, col. 1; see also Fitch, *Conflict Dilemma Grips Science*, Davis Enter., Dec. 3, 1981, at 25, col. 1.

¹⁸ Hoechst, a West German chemical company, agreed to spend \$70 million to create a department of molecular biology at Massachusetts General Hospital, affiliated with Harvard University, in return for exclusive rights to market any discoveries resulting from the department's research. Sanger, *supra* note 17. The Whitehead Foundation has established the Whitehead Institute at M.I.T. with \$7.5 million. The Institute has power to control appointment of faculty who will hold joint positions in the biology department of M.I.T., as well as have access to the faculty and facilities of M.I.T. In return, M.I.T. receives the \$7.5 million, the salaries of the joint faculty, tuition and

Universities also have established research institutes and companies to develop the ideas, processes, and inventions of their faculty.¹⁹ In addition to these institutional links, faculty members frequently develop their research products and expertise privately by forming individual ties with business.²⁰ Professors who perform in any of these roles risk damaging the credibility of university science as a source of detached, objective information and counsel. For example, the public might fear that a professor's ties to a private corporation could impermissibly slant the direction of her research toward the needs of the outside company.²¹ Students might be concerned that the professor is not available for counseling and assistance; graduate students might consider that the emphasis on projects benefiting private interests hampers their opportu-

assistantships for graduate students, and the authority to designate a tenured M.I.T. faculty member as director of the institute. Noble, *M.I.T.-Whitehead Merger: The Selling of the University*, THE NATION 1, 144 (1982).

¹⁹ Harvard University considered such a plan but decided that corporate ventures with its faculty might "change and confuse the relationship of the university to its professors," compromise the university's reputation for integrity, divert faculty time, increase secrecy, and lead to the misuse of graduate students. D. BOK, *supra* note 13, at 23. At Stanford University, a nonprofit Center for Biotechnology Research was established to fund basic academic research in conjunction with a for-profit firm, Engenics, formed to develop large-scale chemical processing. Beyers, Press Release, Stan. U. News Serv., Oct. 20, 1981.

²⁰ For example, Walter Gilbert, 1982 winner of the Nobel Prize in Chemistry, and at that time a professor of microbiology at Harvard University, became a chief executive officer of Biogen, a biotechnology firm. Another biotechnology firm, Genentech, first went on the stock market in 1980 at \$35 a share; its founder, Professor Herbert Boyer of UC San Francisco, became a paper millionaire by midafternoon when the stock soared to \$89 a share. Culliton, *supra* note 2, at 1196.

²¹ Imagine, for example, Professor Entrepreneur (*E*), who has an equity position such as vice president in a corporation that develops products based on her university research. Would this tie impermissibly slant the direction of her research toward the needs of the outside company? Would her outside duties prevent her from performing her university teaching and counseling responsibilities? Suppose that *E* uses her campus laboratory, enlisting both students and lab personnel, to determine the sequence of a DNA clone that has value to her commercial interests but is unrelated to her university research. Most observers would agree that this probably constitutes a misuse of funds, facilities, and personnel. Would it make any difference, however, if the project were essential to or closely related to her approved university research?

If *E* does not disclose her financial interests in her research projects, a distinct possibility for conflict of interest exists. But if the professor is not misusing funds, facilities, and personnel, why should she not use her research to benefit her personal financial interest? If she openly proposes to do research that both advances knowledge and is profitable to her financially, and she is granted funds with that understanding, how can she be guilty of a conflict of interest?

nity to attain knowledge and expertise in their chosen field.²² Colleagues might question whether the professor's loyalty to outside interests is conducive to the collegial atmosphere of the university that fosters the advancement and dissemination of knowledge.²³ This Part deals with these issues as follows: section *A* discusses the role of university researchers in public policymaking both as technical advisors and as decisionmakers; section *B* evaluates some of the larger issues inherent in conflicts of interest on university campuses.

A. University Researchers

When university researchers act as advisors and consultants to government, they enter the realm of public decisionmaking. Governmental decisionmakers rely upon university advisors to provide them with unbiased information and advice in formulating and implementing public policy decisions.²⁴ However, when the advisor has a personal interest in the outcome of the decision, her usefulness may be compromised. In recognition of the potential for bias, federal regulations require consultants to disclose their income and assets.²⁵ At the state level, however, government consultants are not always required to disclose financial interests in the subject of their consultation. It has been possible in California, for example, for a researcher with financial ties to a major lead producer to testify as to the permissible airborne levels of lead in the workplace.²⁶

²² At UC Davis, graduate students who worked for a professor with an equity interest in a small biotechnology firm reported that there was pressure on them to clear their research projects with the outside company. One student was reportedly told to change his thesis topic. Lindsay, *supra* note 17, at B2.

²³ See *infra* note 35 and accompanying text.

²⁴ See, e.g., Boulding, *Truth or Power?*, 190 *SCIENCE* 423 (1975); Marks, *Federal Policy in Biomedical Research: The Report of the President's Biomedical Research Panel*, 35 *FED'N PROC.* 2536 (1976).

²⁵ Staff members engaged in government sponsored research who consult for federal agencies are subject to the provisions of 18 U.S.C. §§ 202-209 (Supp. V 1981) and Exec. Order No. 11,222, 2 C.F.R. § 591 (1972).

²⁶ FPPC Petition, *supra* note 3. Now that some university researchers are designated as public officials, they may be subject to various regulations of the FPPC. For example, public officials may not participate in or otherwise influence decisionmakers of other agencies when the officials have a financial interest in the result. California State Gov't Org. & Econ. v. FPPC, 75 Cal. App. 3d 716, 723, 142 Cal. Rptr. 468, 472 (3d Dist. 1977) ("Thus, a public official outside the immediate hierarchy of the decision-making agency may violate the conflict of interest law if he uses his official authority to influence the agency's decision."); see CAL. ADMIN. CODE tit. 2, R. 18,700(c), (d) (1977).

University researchers may also influence public policy by their professional research decisions, since the state provides most of the research funds to both public and private universities and also puts to use many of the products of the research.²⁷ In 1981, an estimated \$4.4 billion was spent on academic research; industry contributed less than 3.8% of this sum.²⁸ Private sponsors, however, receive the benefit of the use of the public facilities in which the research is conducted, often with the assistance of university students and personnel.²⁹ Nevertheless, the research decisions of university faculty are generally not subject to public scrutiny, nor are faculty normally required to disclose financial interests in their research. Although California has recognized that a conflict of interest may arise when a faculty member makes some research decisions, its regulations require disclosure only by researchers who receive funds from private sources.³⁰ Furthermore, these regulations fail to address the broad issues arising from university ties to industry.³¹

B. Issues in the Controversy: Basic v. Applied Research

Fundamental issues concerning the nature of the university and research enterprise underlie the focus on conflicts of interest and professional responsibility. The primary goals or institutional missions of the university in the United States are the education of students and the advancement of knowledge.³² Critics of university-industry relations fear that, as a result of industry funding, the direction of research will shift from basic research that advances knowledge to commercially valuable applied research.³³ Such a shift would emphasize profits and

²⁷ See Boulding, *supra* note 24; see also Marks, *supra* note 24, at 2537; NSF REPORT, *supra* note 1, at 31; SPO Reports, Sponsored Projects Office Six-Month Summary Statistics 1-2 (U.C. Berkeley Apr., 1983) (copy on file at U.C. Davis Law Review office).

²⁸ NSF REPORT, *supra* note 1, at 7.

²⁹ See, e.g., Lindsay, *supra* note 17, at B3.

³⁰ CAL. ADMIN. CODE tit. 2, R. 18,705 (amendment filed June 4, 1982).

³¹ See, e.g., On Preventing Conflicts of Interest in Government Sponsored Research at Universities, A Joint Statement of the American Association of University Professors and the American Council on Education (1964) (copy on file at the U.C. Davis Law Review office) [hereafter AAUP & ACE Statement].

³² E.g., *Widmar v. Vincent*, 454 U.S. 263, 267 n.5 (1981) ("university's mission is education"); *Beitzell v. Jeffrey*, 643 F.2d 870, 875 (1st Cir. 1981) ("the university's overall mission, the creation and transmission of knowledge"); *Goldberg v. Regents of UC*, 248 Cal. App. 2d 867, 879, 57 Cal. Rptr. 463, 472 (1st Dist. 1967) ("the function of the university is to impart learning and to advance the boundaries of knowledge").

³³ The distinction between basic and applied research has a long history in American universities. The core sciences have, for the most part, concentrated on basic research

short term goals without regard to the greater societal good.

In general, basic research advances knowledge incrementally through the contributions of countless disinterested scholars who build upon the findings of their peers and predecessors.³⁴ Open communication, including the sharing of prepublication information, cell lines, and data, has been the norm.³⁵ Peer recognition of achievement has been the primary source of status and reward,³⁶ and the intellectual integrity and objectivity of basic researchers has gained them the esteem of the public. As a result, university scientists have been relatively free from external controls in choosing their areas of inquiry and their research methodologies.³⁷ For the most part, the public has supported their endeavors financially with a minimum of restriction or direction.³⁸

Applied research, in contrast, has long been subject to external regulation and often proceeds under state and federal mandates to effect desired social goals.³⁹ Since the general advancement of knowledge is not a primary goal of applied research, publication, peer review, and sharing information with colleagues are often of secondary value.⁴⁰

without consideration of practically useful results. Applied research projects have been carried out, in contrast, in strictly defined departments such as agriculture, engineering, medicine, and, to a lesser extent, physics and chemistry. The two forms of research have developed their own methods, traditions, and ethics to suit their specialized needs. T. PARSONS & G. PLATT, *supra* note 12, at 225-66.

³⁴ Comroe & Dripps, *supra* note 14; see also T. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (1962) (scientific revolution occurs when an investigator reorganizes facts in a new, more generalized theory).

³⁵ Weiner, *Relations of Science, Government, and Industry: The Case of Recombinant DNA*, in *SCIENCE, TECHNOLOGY, AND THE ISSUES OF THE EIGHTIES: POLICY OUTLOOK* (1982).

³⁶ T. PARSONS & G. PLATT, *supra* note 12, at 148 ("The egalitarianism of collegiality, through tenure and academic freedom, links egalitarianism with the stratification based on accomplishment.").

³⁷ *Id.* at 123, 148-49.

³⁸ *Id.* at 356-57.

³⁹ Catz, *Land Grant Colleges and Mechanization: A Need for Environmental Assessment*, 47 *GEO. WASH. L. REV.* 736, 737-42 (1979). See generally BRUBACHER & RUDY, *supra* note 12.

⁴⁰ The scientist's norms have been defined as:

honesty, objectivity, tolerance, doubt of certitude, and unselfish engagement If many scientists were to become businessmen and seek incomes from scientific work substantially in excess of what is regarded as normal professional remuneration, doubts would be raised about the devotion of scientists to the norm of intellectual integrity and objectivity as well as about their disinterestedness.

Cournand, *The Code of the Scientists and Its Relationship to Ethics*, 198 *SCIENCE* 699, 700-01 (1977).

Profitmaking is an acceptable value, and the secrecy required by the profitmaking ethic is considered acceptable.

Industrial funding of research may introduce the standards of business and applied research into areas of basic research, subjecting the traditions of scientific inquiry and the norms of its operating code to new pressures. In recent years scientists have complained that information and data are no longer shared freely among colleagues and students — secrecy and distrust have become commonplace in laboratories and research centers.⁴¹ Commercialization of university research may further hinder the advancement of knowledge and the education of students, who must achieve a command of the literature and the state of the art in their disciplines. Traditional academic values, in contrast, foster the free flow of information as a prerequisite of academic freedom. The next Part of this Comment discusses the alternatives of state and university regulation in the context of traditional academic self-regulation in California.

II. UNIVERSITY REGULATION OF CONFLICTS OF INTEREST

In past years, conflict of interest concerns focused on faculty consulting activities rather than on faculty financial equities in businesses affected by their university research.⁴² Much of the current controversy stems from the participation of faculty in government and industry projects outside of their institutional duties. Generally, such activities have been considered mutually beneficial to all concerned.⁴³ Most universities, including UC,⁴⁴ encourage faculty consulting as a public ser-

⁴¹ See, e.g., D. BOK, *supra* note 13, at 23.

⁴² Consulting has been defined as "performing a service in one's field or discipline for a person or firm other than the university and receiving a fee for that service." Weston, "Outside" Activities of Faculty Members, 7 J.C. & U.L. 68, 75 (1980-81).

At UC Berkeley, the faculty senate formed an ad hoc committee to recommend on matters related to faculty consulting in 1977. See *infra* notes 147-49 and accompanying text. The subject of faculty consulting at UC was also of interest to the California Legislature. In 1978, a subcommittee of the assembly attempted to write into the university budget a requirement that faculty reveal the sources and amounts of their consulting fees. The language was later deleted. Dillon & Bane, *Consulting and Conflict of Interest: A Compendium of the Policies of Almost One Hundred Major Colleges and Universities*, EDUC. REC. 52 (1980). For a comprehensive discussion of faculty income from consulting and other links with industry, see R. LINNELL, *DOLLARS & SCHOLARS* (1982).

⁴³ Weston, *supra* note 42, at 68.

⁴⁴ See, e.g., University of California, Regulation No. 4 (issued June 23, 1958); University of California, Policy on Outside Professional Activities of Faculty Members (issued Apr. 13, 1979) (copies on file at U.C. Davis Law Review office).

vice that promotes rapid transfer of technical knowledge and skill to industry.⁴⁵ The faculty member, in turn, is thought to benefit from continuing education in the latest technological developments⁴⁶ and from the additional income that supplements a university base salary lower than those industry offers.⁴⁷ University professors, however, have been among the first to recognize the potential for conflicts of interest in the complex interrelationships of education, business, and government.⁴⁸

The participation of professors in the conflict of interest debate arises from a long tradition of academic self-governance.⁴⁹ Most university faculty associations discuss and develop policies for faculty consulting with outside business and government,⁵⁰ and individual professors and

⁴⁵ See, e.g., D. BOK, *supra* note 13, at 12.

⁴⁶ D. BOK, *supra* note 13, at 12; see also AAUP & ACE Statement, *supra* note 31.

⁴⁷ Most faculty compensation studies, however, only report base salaries, usually for a nine month contract. K. Dillon, R. Linnell & H. Marsh, *Faculty Compensation: Total University Earnings at Research Universities 1-3* (1979) (unpublished manuscript) (copy on file at U.C. Davis Law Review office). Most faculty at major research universities earn substantial overbase salaries, not including consulting fees or book royalties. Seventy percent of faculty earn an additional 21.5% of their base salaries. *Id.*

⁴⁸ See, e.g., AAUP & ACE Statement, *supra* note 31; see also Dillon & Bane, *supra* note 42, at 52.

There are few cases addressing the problem of consulting in excess of university policy. Weston, *supra* note 42, at 76. Most relate to public universities that can use state law as the basis for a claim. Contract law is more likely to be used for private universities. *Id.*; see, e.g., *Gross v. University of Tenn.*, 448 F. Supp. 245 (W.D. Tenn. 1978) (medical school clinical consulting regulations rationally related to goal of fostering full time teaching); *Atkinson v. Board of Trustees*, 559 S.W.2d 473 (Ark. 1977) (unreasonable classification allowing assistant professors but not full professors and associate professors outside practice).

It is often difficult to assess the consulting activities of university professors. When Charles Schwartz, professor of physics at UC Berkeley, was preparing his unpublished report, *Academics in Government and Industry: A Study of the Outside Consulting Activities of University Faculty* (1975) (copy on file at U.C. Davis Law Review office), he discovered that data on individual professors' consulting activities were not publicly available in any systematic form. He compiled his data from the President's annual report of the membership and activities of the 1400 advisory committees that serve the Executive Branch and Dun & Bradstreet's *Million Dollar Directory*, which lists directors and officials in companies with assets of over \$1 million.

⁴⁹ See generally L. JOUGHIN, *ACADEMIC FREEDOM AND TENURE: A HANDBOOK OF THE AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS* 35-36 (1967).

⁵⁰ See, e.g., Memorandum of UC Berkeley Senate (1978) (copy on file at U.C. Davis Law Review office).

The majority of research universities have some policy limiting consulting activities. Dillon & Bane, *supra* note 42, at 52-54. These policies are often largely formalities, however, because the reporting requirements are vague and seldom accompanied by effective monitoring procedures. See, e.g., Schwartz, *supra* note 48, at 4-5. In general,

administrators have led the way in analyzing the potential for conflicts of interest in industry ties with universities and faculty.⁵¹

faculty members are allowed to keep the fees they receive, with the exception of medical school clinical faculty practice plans. *See generally* ASSOCIATION OF AMERICAN MEDICAL SCHOOLS, *MEDICAL PRACTICE PLANS AT UNITED STATES MEDICAL SCHOOLS: A REVIEW OF CURRENT CHARACTERISTICS AND TRENDS* (1977). In many of the plans, clinical medical faculty receive a base salary plus a clinical supplement tied to the income generated by their services to patients. Some incentive plans allow the faculty member to retain negotiated percentages of the amount she earns in excess of her base salary. The remainder goes into university funds, some of which may be designated for basic research. In principle, such plans might be adapted to other graduate division faculty in science, engineering, or computer sciences.

⁵¹ Harvard University's 1980 deliberations on whether or not to engage in commercial genetic engineering ventures provide an instructive example. *See generally* D. BOK, *supra* note 13.

In 1981-82, the systemwide administration of the University of California attempted to assess the impact of university-industry relations in two studies sponsored by then President David Saxon. The report from the University-Industry Relations Project recommended preparation of a handbook for campus administrators of policies and procedures for "developing cooperative agreements with firms," making clear that no bias exists against such associations. UNIVERSITY OF CALIFORNIA, *REPORT OF THE UNIVERSITY-INDUSTRY RELATIONS PROJECT* (1982). The second report, a draft from the Committee on Rights to Intellectual Property, chaired by Vice President Fretter, examined "guidelines concerning faculty conflict of interest, policy concerning tangible research products (including cell lines) and their subsequent licensing; and . . . the question of University ownership of commercial ventures based on the research" of the faculty. Letter from David S. Saxon, UC President, to the Chancellors, Laboratory Directors, Chair, Academic Council, Chair, Student Body Presidents' Council, and Chair, Council of UC Staff Assemblies, Mar. 2, 1982 (copy on file at U.C. Davis Law Review office). The conclusions of the report, with respect to conflict of interest, led to the University's promulgation of a revised disclosure policy in December 1981. *Id.* at 2.

In March, 1982, UC President Saxon and Donald Kennedy, President of Stanford University, jointly organized a conference on basic research and commercialization held at Pajaro Dunes, California. Funded by a \$50,000 Kaiser Foundation grant, the conference, closed to the public, brought together a select group of representatives of university administrators from UC, Stanford, and Harvard, the California Institute of Technology, and the Massachusetts Institute of Technology, industry executives, and some faculty scientists. The avowed purpose of the conference was "to seek agreement on a set of principles that could guide the growth of biotechnology as that industry interacts with universities." Letter from William R. Frazer, UC Vice President, to Oliver Johnson (Jan. 5, 1982) (copy on file at U.C. Davis Law Review office). The conference has been criticized for its lack of public participation. *See, e.g., Does Biotechnology Have a Price?*, 296 *NATURE* 479 (1982).

Concerned UC faculty sponsored public lectures on the topic of conflicts of interest. For example, Leon Wofsy, Professor of Immunology, spoke on the topic "Biology and the University on the Market Place: What's for Sale?" at UC Berkeley on March 16, 1982 (transcript on file at U.C. Davis Law Review office). At UC Davis, Paul Bauermann, Professor of Bacteriology, organized a series of lectures in the spring of 1982, co-

Many universities have established internal conflict of interest committees⁵² comprised of representatives from the major disciplines and professional schools of the university. Diverse representation encourages input from a wide range of sources within the university in order to provide broad, relatively disinterested perspectives on problems arising in individual departments. On the other hand, university committees have limited power to detect violations and to enforce ethical restraints.⁵³ Without the authorization of the faculty as a whole, for

sponsored by the Microbiology Graduate Student Association and the Department of Bacteriology, with the support of Allen G. Marr, Dean of the Graduate Division. Speakers included Professors Robert Linnell, University of Southern California, David Noble, Massachusetts Institute of Technology, Robert Sinsheimer, UC Santa Cruz, Charles Schwartz, UC Berkeley, William Smith, Stanford University graduate student, Donald Comb, Ph.D., President of New England Biolabs, Inc., Robert Fuller, Ph.D., Vice President of Johnson and Johnson Co., and Ralph Abascal, J.D., California Rural Legal Assistance attorney.

⁵² On the Davis campus in 1982, the Ad Hoc Academic Senate Committee on Conflicts of Interest prepared a detailed form for reporting outside professional activities and disclosure of related equity interests of faculty (copy on file at U.C. Davis Law Review office). The revised form required faculty reporting of all paid and unpaid services to government and business, service on a journal as editor or reviewer, service on a committee or as an officer of a professional society, equity interests or significant involvement in private corporations or nonprofit organizations with activities related to university functions or products and research activities allied to their own research interests, commissions for participating in artistic performances or events not sponsored by the university, classroom use of textbooks or laboratory manuals authored, and honoraria for lectures or papers at invited meetings. The disclosure policies recommended are more extensive than those mandated by regulation 18,705 of the California Administrative Code. *See supra* note 6.

⁵³ University faculty and administrators have been conscientious, however, in dealing administratively with faculty conflicts of interest. For example, in 1981 the UC Davis administration discovered and confronted a potential conflict of interest situation. Professor Ray Valentine of UC Davis had secured a \$2.5 million multi-project research grant from Allied Chemical Co. to investigate nitrogen fixation in plants. Two days after the grant was awarded to the university, Allied Chemical purchased 20% of the stock in Valentine's local firm, Calgene. Interview with Allen G. Marr, Dean of the Graduate Division, UC Davis, in Davis (July 28, 1983). The ensuing furor led Dean Charles Hess of the College of Agricultural and Environmental Sciences to offer Valentine three courses of action: end his affiliation with Calgene, resign from his position at the agriculture experiment station, or remove himself from participation in the Allied Chemical sponsored project. Valentine chose the latter course. As a result, the university lost \$1 million from the grant because there was no one else in the department qualified to perform the research. Professor Valentine continues in his positions at the university and in Calgene. Interview with Charles E. Hess, Dean of the College of Agricultural and Environmental Sciences, UC Davis, in Davis (Mar. 3, 1982); *see also* Davis Enter., Fitch, *Conflict Dilemma Grips Science*, Dec. 3, 1981, at 25, col. 1; *Campion*, *Academe-Industry Linkages of the Biotechnology Revolution: Academe, Industry,*

example, committees cannot require financial disclosure of consulting activities and income.⁵⁴

The UC Berkeley Senate considered such a proposition in 1977. It appointed a committee to investigate the effects of faculty consulting on university duties and the potential conflicts of interests arising from these activities.⁵⁵ The committee concluded that there was no need for reform of the university's consulting policies. In dissent, a Senate member presented a strongly worded minority report arguing that the university policies did not address the serious potential for conflicts of interest. The minority report proposed a rule for public disclosure of faculty consulting that was resoundingly voted down by the Academic Senate, on the grounds that such disclosure was unnecessary and would violate their privacy and academic freedom.⁵⁶

Judging from the Berkeley experience, it is unlikely that university faculty will adopt voluntary disclosure as a means of coping with conflicts of interest. Thus, university regulation may be insufficient to deal with the pressures of commercialization and public demands for accountability. How, then, may the concerns of both the academic community and the public be represented in areas of university affairs that have important social consequences? One solution is to establish independent state regulatory agencies such as California's FPPC that have quasi-legislative power to apply conflict of interest regulations to public university faculty and impose civil and criminal sanctions.⁵⁷ The following Part will discuss the application of state conflict of interest regulation to university researchers.

III. STATE REGULATION OF CONFLICTS OF INTEREST

Generally, conflict of interest regulation is appropriate whenever a public official's private interests appear to clash with the proper administration of her public responsibilities.⁵⁸ Private interest is normally in-

and Government Relations (Dec. 9, 1981) (unpublished paper sponsored by the Washington Internship Program, College of the Holy Cross, and the American Association for the Advancement of Science) (copy on file at U.C. Davis Law Review office).

⁵⁴ See *infra* notes 55-56 and accompanying text.

⁵⁵ See Memorandum of UC Berkeley Senate, *supra* note 50.

⁵⁶ *Id.*

⁵⁷ See, e.g., California Political Reform Act of 1974, CAL. GOV'T CODE § 83111 (West 1976).

⁵⁸ E.g., *Gardner v. Nashville Hous.*, 514 F.2d 38, 41 (6th Cir. 1975) ("a clash between the public interest and the private pecuniary interest of the individual involved"). For a discussion of the definition of conflict of interest, see Cranston, *Regulating Conflict of Interest of Public Officials: A Comparative Analysis*, 12 VAND. J. TRANSNAT'L

terpreted as economic gain,⁵⁹ although the mere appearance of a conflict of interest without actual misconduct may undermine public confidence in the official's integrity. Consequently, conflict of interest regulation is often prophylactic, designed to prevent improprieties from occurring.⁶⁰

L. 217 (1979).

The risk of impaired judgment arises from the temptation to serve personal interests. The experience of centuries indicates that "when a conflict between duty and self-interest arises in the breast of a person holding a fiduciary relation, the only safe rule to adopt . . . ascribes to self-interest rather than a sense of duty the motive power of ensuing action." *Loft Inc. v. Guth*, 23 Del. Ch. 138, 169, 2 A.2d, 225, 239 (1939).

Conflict of interest appears to be inherent in social and political organization. See generally L. COSER, *THE FUNCTIONS OF SOCIAL CONFLICT* (1954). In the United States, it is considered desirable that the main branches of government be balanced in an equilibrium of opposing interests. See U.S. CONST. arts. I, II, III. However, the prohibition against serving two masters is deeply ingrained in Western culture. See, e.g., *Matthew* 6:24 (the Sermon on the Mount); PLATO, *THE REPUBLIC*, Book VII (Modern Library, B. Jowett trans. 1941) (philosopher kings should not hold economic interests). This maxim has influenced the development of the ethics of public service. The United States Constitution, for example, prohibits any member of Congress from holding office in the federal executive branch. U.S. CONST. art. I, § 6, cl. 2. Conflicts regulation is not limited to the legislative and executive branches of government. Fiduciaries such as guardians, executors, lawyers, judges, and agents all have legal duties to avoid private interests that would impede service on behalf of their beneficiaries and principals.

⁵⁹ E.g., *Hortonville Joint School Dist. No. 1 v. Hortonville Educ. Ass'n*, 426 U.S. 482, 492 (1976) ("personal or financial stake in the decision that might create a conflict of interest"); *City of Carmel-by-the-Sea v. Young*, 2 Cal. 3d 259, 259, 466 P.2d 225, 226-27, 85 Cal. Rptr. 1, 3 (1970) ("conflict of interest between the public employment and the private financial interests of those holding public office"); see also CAL. GOV'T CODE § 87100 (West 1976): "No public official at any level of state or local government shall make, participate in making or in any way attempt to use his official position to influence a governmental decision in which he knows or has reason to know he has a financial interest." See generally ASSOCIATION OF THE BAR OF THE CITY OF NEW YORK SPECIAL COMMITTEE ON THE FEDERAL CONFLICT OF INTEREST LAWS, *CONFLICT OF INTEREST AND FEDERAL SERVICE* (1960).

⁶⁰ E.g., *California State Gov't Org. & Econ. v. FPPC*, 75 Cal. App. 3d 716, 723, 142 Cal. Rptr. 468, 472 (3d Dist. 1977) ("The conflict of interest laws operate without regard to actual corruption or actual governmental loss; they establish an objective standard 'directed not only at dishonor, but also at conduct that tempts dishonor;' they are preventive, acting upon tendencies as well as prohibited results.") (quoting *United States v. Mississippi Valley Generating Co.*, 364 U.S. 520, 549-51 (1960)); see also *Stigall v. City of Taft*, 58 Cal. 2d 565, 569, 375 P.2d 289, 291, 25 Cal. Rptr. 441, 443 (1962); *People v. Watson*, 15 Cal. App. 3d 28, 37-39, 92 Cal. Rptr. 860, 865-67 (2d Dist. 1971); cf. U.S. CONST. art. I, § 6, cl. 2 (prohibiting any member of Congress from holding office in the executive branch).

At the first Congress, the Rules of the House of Representatives required congressmen to disqualify themselves from voting on legislation in which they had a personal or

Hence, regulations may require that public officials disclose their income and assets publicly to avoid even the slightest suspicion of self-interested motivation in public decisionmaking.⁶¹

A. Conflict of Interest Regulation in California

The California Political Reform Act of 1974 established the FPPC to administer and implement conflict of interest regulations applicable to public officials.⁶² According to the Act, a conflict of interest exists when (1) a public official makes, participates in making, or uses her official position to influence a governmental decision that (2) will foreseeably affect her financial interest, (3) resulting in a material effect on the official's financial interest, (4) distinguishable from its effect on the public generally.⁶³ The Act requires every state agency to formulate a conflict of interest code that directs "designated employees"⁶⁴ to disclose relevant income and assets.⁶⁵ As a state agency, UC implemented a code that designated faculty members with administrative positions as public officials subject to the Act.⁶⁶ Most professors and researchers

economic interest. House Rules and Manual § 659, Rule VII (1791). The Secretary of the Treasury was forbidden to invest in government securities. 1 Stat. 67 (1789). Common law decisions confirm that a public official does not have the right to place herself in a position that would deprive the public of her unbiased judgment. *E.g.*, *Noble v. City of Palo Alto*, 89 Cal. App. 47, 51-52, 264 P. 529, 531 (1928); *Pratt v. Luther*, 45 Ind. 250, 255 (1873).

⁶¹ *See, e.g.*, California Political Reform Act of 1974, CAL. GOV'T CODE § 83111 (West 1976); *see also* *Loft Inc. v. Guth*, 23 Del. Ch. 138, 169, 2 A.2d 225, 239 (1938).

⁶² CAL. GOV'T CODE § 83111 (West 1976).

⁶³ CAL. ADMIN. CODE tit. 2, R.R. 18,700-18,703 (1984). As a state agency, UC is subject to the code.

⁶⁴ A designated employee is one who "is designated in a conflict of interest code because the position entails the making or participation in the making of decisions which may foreseeably have a material effect on any financial interest." CAL. GOV'T CODE § 82019(c) (West 1976).

⁶⁵ CAL. GOV'T CODE §§ 81000-91014 (West 1976).

⁶⁶ *See* CAL. GOV'T CODE §§ 87100, 87302 (West 1976); CAL. ADMIN. CODE, tit. 2, R.R. 18,700, 18,705 (1984). The code sections apply only to persons who are members, officers, employees, or consultants of state and local government agencies. CAL. ADMIN. CODE, tit. 2, R. 18,700(a) (1977). Thus, faculty at private universities in California are not subject to the conflict of interest regulations. Nevertheless, many institutions of higher learning are affected.

An assembly bill, the California Organic Act of 1868, 1867-68 Cal. Stats, ch. 244, created the University of California. The constitutional convention of 1879 adopted article IX, section 9, making the university a separate branch of government. W. FERRIER, *ORIGIN AND DEVELOPMENT OF THE UNIVERSITY OF CALIFORNIA* 372 (1930). Two other systems of education in California have been created by statutory enactment:

were exempted from these requirements because the FPPC originally exempted faculty research decisions from the definition of "governmental decisions" under the statute.⁶⁷ Concerned citizens challenged the omission, pointing out that research decisions may have far-reaching consequences for the state.

In 1981, two nonprofit public interest organizations⁶⁸ petitioned the FPPC to amend the state administrative code to include certain faculty researchers. The organizations documented situations in which UC researchers were benefiting financially from their university research and cited additional incidents from the California Auditor General Reports.⁶⁹ After public hearings in 1982, the FPPC amended section 18,705 of the California Administrative Code to require faculty at state supported colleges and universities to disclose their financial interests in the private sponsors of their research at the time they apply for project approval or renewal.⁷⁰

As amended, the state disclosure requirements affect less than ten percent of the funds supporting scientific research at UC.⁷¹ Researchers with financial interests in government supported research, for example, fall outside the scope of the regulations which require disclosure only when a researcher has "an investment interest in, holds a position with, or has received income from" a private source.⁷² When such an interest is disclosed, however, the administrative code directs a university committee to undertake a substantive review.⁷³

Each campus forms its own review committee to evaluate research applications pursuant to the code. Proposed guidelines charge the committee to consider whether the research is proprietary in nature or ap-

the California state universities and colleges and the community colleges. CAL. EDUC. CODE §§ 92030-92040, 92430-92450 (West 1978).

⁶⁷ CAL. ADMIN. CODE tit. 2, R. 18,705 (filed Jan. 24, 1978). In 1982, the FPPC amended regulation 18,1705 to include faculty researchers who have a financial interest in the private sponsors of their university research. See *supra* notes 5-8 and accompanying text.

⁶⁸ California Rural Legal Assistance and California Agrarian Action Project, Inc. filed the petition to the FPPC. See FPPC Petition, *supra* note 3.

⁶⁹ See, e.g., CALIFORNIA AUDITOR GENERAL, REPORT TO THE CALIFORNIA LEGISLATURE 715.9 (1978) (copy on file at U.C. Davis Law Review office).

⁷⁰ CAL. ADMIN. CODE tit. 2, R. 18,705 (amendment filed June 4, 1982).

⁷¹ See UNIVERSITY OF CALIFORNIA, REPORT OF THE UNIVERSITY-INDUSTRY RELATIONS PROJECT 1 (1982).

⁷² CAL. ADMIN. CODE tit. 2, R. 18,705(b) (amendment filed June 4, 1982). Charitable organizations are now excluded from the reporting requirements. Telephone interview with Robert Leidigh, Staff Attorney, FPPC (Mar. 9, 1984).

⁷³ CAL. ADMIN. CODE tit. 2, R. 18,705(b) (amendment filed June 4, 1982).

propriate to the university, and whether the principal investigator is the only person on campus qualified to undertake the project.⁷⁴ The committee then submits a recommendation to the campus chancellor, who may accept the project as proposed, reject it, or modify it by substituting another researcher as principal investigator.⁷⁵ Reports of the committee deliberations and the chancellor's decisions are then filed with the university administration and the FPPC, which monitors the implementation of the code.⁷⁶ The FPPC actively scrutinizes the implementation of disclosure and review to insure that all campuses are uniformly administering the mandated procedures.⁷⁷

Recognizing its unusual venture into internal university affairs, the FPPC drew a very narrow regulation.⁷⁸ The following sections will discuss the regulation in terms of its intrusion into areas of financial privacy of faculty and their academic freedom.

B. Financial Privacy

The constitutional right to privacy derives from the freedoms enunciated in the Bill of Rights and is well established in the context of personal, especially familial, decisionmaking.⁷⁹ Although the Supreme Court has made no definitive rulings on the right to personal financial privacy,⁸⁰ courts have interpreted the Constitution to "permit considerable government regulation and scrutiny of financial matters,"⁸¹ particu-

⁷⁴ Interview with Robert Leidigh, *supra* note 8.

⁷⁵ *Id.*

⁷⁶ CAL. GOV'T CODE § 83111 (West 1976).

⁷⁷ Interview with Robert Leidigh, *supra* note 8.

⁷⁸ Telephone interview with Robert Leidigh, Staff Attorney, FPPC (Sept. 3, 1983).

⁷⁹ In a series of historic decisions, the Supreme Court has protected aspects of the fundamental right to privacy that flows from the ninth and fourteenth amendments, emphasizing the privacy of decisions made in the context of marriage, contraception, conception, abortion, education, and nurturing of children. *See, e.g.*, *Roe v. Wade*, 410 U.S. 113 (1973) (right to choose whether or not to give birth); *Loving v. Virginia*, 388 U.S. 1 (1967) (right to marry); *Griswold v. Connecticut*, 381 U.S. 479 (1965) (right to decide whether or not to conceive a child); *Skinner v. Oklahoma*, 316 U.S. 535 (1942) (right to procreate); *Pierce v. Society of Sisters*, 268 U.S. 510 (1925) (right to send child to nonpublic school); *Meyer v. Nebraska*, 262 U.S. 390 (1923) (right to decide what language a child will learn).

⁸⁰ For a discussion of the right to financial privacy, see Jack, *Constitutional Aspects of Financial Disclosure Under the Ethics in Government Act*, 30 CATH. U.L. REV. 583 (1981).

⁸¹ *Id.* at 585; *see, e.g.*, *California Banker's Ass'n v. Schultz*, 416 U.S. 21 (1974) (upholding reporting and recordkeeping requirements of the Bank Secrecy Act of 1970).

larly with respect to public officials. Conflict of interest disclosure statutes applying to legislators, judges, and members of the executive branch have been upheld by the majority of state and federal courts.⁸² Intrusions on the personal financial privacy of public officials are justified by their having chosen the responsibilities of public service and its concomitant limitations on privacy.⁸³

In California, this rationale justifies the financial disclosure required of public officials by the Political Reform Act of 1974 despite the explicit provision of a right to privacy in the California Constitution.⁸⁴ The California Supreme Court recognized that the right encompasses financial privacy in *Carmel-by-the-Sea v. Young*,⁸⁵ but held that it is not absolute and does not preclude disclosure of financial information relevant to an important government interest.⁸⁶

Like public servants in other branches of government, some California state university faculty are designated as public officials subject to principles of fiduciary loyalty and responsibility.⁸⁷ However, the dis-

⁸² Jack, *supra* note 80, at 585 and cases cited therein.

⁸³ *Id.* at 590.

⁸⁴ CAL. CONST. art. I, § 1. See *Hays v. Wood*, 25 Cal. 3d 772, 603 P.2d 19, 160 Cal. Rptr. 102 (1979) (upholding disclosure provisions of the Political Reform Act of 1974); *County of Nevada v. MacMillen*, 11 Cal. 3d 662, 522 P.2d 1345, 114 Cal. Rptr. 345 (1974) (upholding constitutionality of 1973 conflict of interest law).

⁸⁵ 2 Cal. 3d 259, 268, 466 P.2d 225, 231-32, 85 Cal. Rptr. 1, 7-8 (1970).

⁸⁶ *Id.* Such an interest is represented by the California Constitution's mandate that public funds should be expended for public purposes. CAL. CONST. art. XVI, § 6. However, incidental benefits to private individuals have been held permissible. See, e.g., *California Hous. Fin. Agency v. Elliot*, 17 Cal. 3d 575, 586, 551 P.2d 1193, 1200, 131 Cal. Rptr. 361, 368, (1976); *County of Alameda v. Carleson*, 5 Cal. 3d 730, 745-46, 488 P.2d 953, 964, 97 Cal. Rptr. 385, 396 (1971); *Atlantic Richfield Co. v. Los Angeles County*, 129 Cal. App. 3d 287, 296-97, 180 Cal. Rptr. 901, 906-07 (2d Dist. 1982).

In their suit against the UC Regents, California Agrarian Action Project, Inc. argues that the Regents violate § 6 of the constitution when they approve expenditures of university funds for farm mechanization research projects that aid private entities. *California Agrarian Action Project v. Regents of UC*, No. 5,164,225 (Super. Ct. Alameda County, filed Jan. 16, 1979). Similarly, the public funding doctrine may apply to state supported research that benefits private entities. However, it is not yet clear whether or not the public funding provisions of the constitution are applicable to UC. See *Newmarker v. Regents of UC*, 160 Cal. App. 2d 640, 648, 325 P.2d 558, 563 (1st Dist. 1958); cf. 3 Op. Cal. Att'y Gen. 42 (1944) ("it is questionable whether Article IV, section 31, is applicable to the defendants"). *Contra* Plaintiff's Second Amended Complaint at 8-9, *California Agrarian Action Project v. Regents of UC*, No. 5,164,225 (Super. Ct. Alameda County, filed Jan. 16, 1979). See generally Comment, *The Public Purpose Doctrine and University of California Farm Mechanization Research*, 11 U.C. DAVIS L. REV. 599 (1978).

⁸⁷ E.g., CAL. ADMIN. CODE tit. 2, R. 18,705 (amendment filed June 4, 1982).

closure requirements that apply to university researchers represent a very minimal intrusion into their financial privacy. Unlike other public officials, researchers need not disclose all their assets or income on a regular reporting basis.⁸⁸ The disclosure requirements that affect university researchers are transactional: disclosure is required only when a research project is to be approved or renewed⁸⁹ and is limited to financial interests in private sponsors of the research.⁹⁰ There is no continuing annual disclosure requirement for ongoing research projects, although presumably the government interest in preventing conflicts of interest could justify such disclosure. Similarly, although faculty members are not required to reveal financial interests in entities that benefit from their government or privately sponsored research conducted on university premises, such regulation probably would conform to the standards of *Carmel-by-the-Sea*.

Even if conflict of interest regulations only minimally intrude on financial privacy, however, university faculty have asserted that state mandated income disclosure invades their academic freedom. The next section of the Comment discusses state regulation of conflicts of interest as it affects the rights and privileges associated with academic freedom.

C. Academic Freedom

Historically, academic freedom is a composite of privileges accorded to the universities by the state to safeguard the freedom of thought and expression of scholars from external coercion.⁹¹ In the United States

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ In the Middle Ages, scholars traveled throughout Europe to study under renowned teachers. These peripatetic scholars were not subject to local civil authorities because of special privileges accorded them by reigning popes and emperors. The medieval universities built upon this scholar's privilege insisted that their members be governed by an internal, autonomous judicial system. Mature scholars formed guild-like organizations that ran the university through an extensive system of internal rules. Nordin, *Academic Freedom and Accountability: The University, the Individual and the State*, in *WORKSHOP ON WHISTLE BLOWING IN BIOMEDICAL RESEARCH AGENDA BOOK* (1981) (copy on file at U.C. Davis Law Review office); see also P. KIBRE, *SCHOLARLY PRIVILEGES IN THE MIDDLE AGES* (1962); Poulos, *Forward, The Academy in the Courts: A Symposium on Academic Freedom*, 16 U.C. DAVIS L. REV. 831, 831 (1983).

The concept of the university as a center for the advancement of knowledge developed in 19th century Germany. German rulers astutely realized that the natural and medical sciences were contributing to the wealth and power of the state. As a result, they supported and strengthened the concept of scholarly privilege. Academic freedom

this general notion gradually was accepted, in varying degrees, by the courts. In a line of cases arising in the 1950's, for example, the Supreme Court began to uphold the claims of state university professors who objected to the imposition of state loyalty oath requirements⁹² and other constraints on their rights of speech and association. A growing

within the German universities consisted of protections for teaching and publishing ideas that might be unacceptable to lay people. Outside the university's walls, however, the scholar's speech and conduct had no special protection. R. HOFSTADTER & N. METZGER, *THE DEVELOPMENT OF ACADEMIC FREEDOM IN THE UNITED STATES* (1955); see also Fuchs, *Academic Freedom—Its Basic Philosophy, Function and History*, 28 *LAW & CONTEMP. PROBS.* 431 (1963); *Developments in the Law — Academic Freedom*, 81 *HARV. L. REV.* 1049 (1968). For a discussion of current issues of academic freedom, see *The Academy in the Courts: A Symposium on Academic Freedom*, 16 *U.C. DAVIS L. REV.* 831 (1983).

⁹² The Court struck down numerous state loyalty oath statutes for vagueness and overbreadth. See, e.g., *Keyishian v. Board of Regents*, 385 U.S. 589 (1967); *Elfbrandt v. Russell*, 384 U.S. 11 (1966); *Baggett v. Bullitt*, 377 U.S. 360 (1964); *Cramp v. Board of Public Instruction*, 368 U.S. 278 (1961); *Shelton v. Tucker*, 364 U.S. 479 (1960); *Sweezy v. New Hampshire*, 354 U.S. 234 (1957); *Wieman v. Updegraff*, 344 U.S. 183 (1952).

In another line of cases, the Court upheld the first amendment claims of teachers discharged from employment for exercising constitutional freedoms. E.g., *Mount Healthy City Bd. of Educ. v. Doyle*, 429 U.S. 274 (1977) (teacher conveyed contents of teacher dress code to local radio station); *Perry v. Sinderman*, 408 U.S. 593 (1972) (teacher publicly criticized policies of the college administration); *Pickering v. Board of Educ.*, 391 U.S. 563 (1968) (teacher criticized school board's allocation of resources in letter to newspaper); *Keyishian v. Board of Regents*, 385 U.S. 589 (1967) (teacher's failure to sign loyalty oaths).

In *Barenblatt v. New Hampshire*, 360 U.S. 109 (1959), the Supreme Court limited the reach of first amendment protection to universities, noting that:

Of course, broadly viewed, inquiries cannot be made into *the teaching* that is pursued in any of our educational institutions. . . . But this does not mean that the Congress is precluded from interrogating a witness merely because he is a teacher. *An educational institution is not a constitutional sanctuary from inquiry into matters that may otherwise be within the constitutional legislative domain* merely for the reason that inquiry is made of someone within its walls.

Id. at 112, (emphasis added).

The *Barenblatt* Court permitted the government investigation because it was directed at controlling the overthrow of government, rather than at teaching within the universities. It held that the balance of private and public interests favored the investigation. *Id.* at 128-30.

The principle of *Sweezy v. New Hampshire*, 354 U.S. 234 (1957), remains, however, that generally academic freedom excludes government from "intervention in the intellectual life of the university," whether it be by direct intervention or by "action that inevitably tends to check the ardor . . . of scholars." *Id.* at 262 (Frankfurter, J., concurring); see also *Keyishian v. Board of Regents*, 385 U.S. 589 (1967) (striking

body of commentary proposes that the Court could also extend constitutional protection to a university researcher's interest in pursuing scientific inquiry, or some of its components, because it serves both public and private interests.⁹³

To the extent that government regulates academic research,⁹⁴ it po-

down New York loyalty oath for vagueness):

Our nation is deeply committed to safeguarding academic freedom, which is of transcendent value to all of us and not merely to the teachers concerned. That freedom is therefore a special concern of the First Amendment, which does not tolerate laws that cast a pall of orthodoxy over the classroom.

Id. at 603.

⁹³ See, e.g., Berger, *Government Regulation of the Pursuit of Knowledge: The Recombinant DNA Controversy*, 13 VT. L. REV. 83 (1978); Cheh, *Government Control of Private Ideas — Striking a Balance Between Scientific Freedom and National Security*, 23 JURIMETRICS J. 1 (1982); Delgado & Millen, *God, Galileo and Government: Toward Constitutional Protection for Scientific Inquiry*, 53 WASH. L. REV. 349, 354-61 (1978); Favre & McKinnon, *The New Prometheus: Will Scientific Inquiry Be Bound by the Chains of Government Regulations?*, 19 DUQ. L. REV. 651 (1981); Ferguson, *Scientific and Technological Expression: A Problem in First Amendment Theory*, 16 HARV. C.R.-C.L. L. REV. 519 (1981); Ferguson, *Scientific Inquiry and the First Amendment*, 64 CORNELL L. REV. 639 (1979); Lederberg, *The Freedoms and the Controls of Science: Notes from the Ivory Tower*, 45 S. CAL. L. REV. 596 (1972); Robertson, *The Scientists's Right to Research: A Constitutional Analysis*, 51 S. CAL. L. REV. 1203 (1978); Note, *First Amendment Protection for Biomedical Research*, 19 ARIZ. L. REV. 893 (1977); Note, *Considerations in the Regulation of Biomedical Research*, 126 U. PA. L. REV. 1420, 1427-35 (1978); see also Delgado, *et al.*, *Can Science Be Inopportune? Constitutional Validity of Governmental Restrictions on Race-IQ Research*, 31 UCLA L. REV. 128 (1983).

There is another body of opinion that argues that the first amendment protects only political expression. E.g., BeVier, *The First Amendment and Political Speech: An Inquiry into the Substance and Limits of the Principle*, 30 STAN. L. REV. 299 (1978); Bork, *Neutral Principles and Some First Amendment Problems*, 47 IND. L.J. 1, 20 (1971). However, proponents of a broad application of first amendment analysis point out that the scientist has an individual interest in self expression and the free exchange of ideas while the public has an interest in unfettered dissemination of scientific information because it is a "major determinant of . . . culture as well as a supplier of the information necessary for the intelligent resolution of disputes that are expressly political." Delgado & Millen, *supra*, at 367.

⁹⁴ The federal government has power to regulate research under its police powers and the interstate commerce clause, U.S. CONST. art. I, § 8, and currently regulates, for example, experimentation with human subjects and atomic research. 42 U.S.C. § 2274 (1973); 45 C.F.R. § 46 (1983). Even municipalities have power to regulate research. When the concern for the possible harmful effects of recombinant DNA research was at its height, the cities of Cambridge, Massachusetts and Berkeley, California passed ordinances banning high risk recombinant DNA research within city limits. See Berkeley, Cal., Ordinance 5010 (Oct. 21, 1977); Wade, *Gene Splicing: Cambridge Citizens*

tentially impinges on the free flow of information vital to informed decisionmaking.⁹⁵ Regulations furthering important governmental interests, however, have been held to justify incidental limitations on expression.⁹⁶ Typically, the courts balance the interests served by a restriction and the extent to which the communicative activity is inhibited.⁹⁷ If this test were applied to scientific research as speech, state regulations aimed at deterring conflicts of interest in university research might outweigh the interest in unrestricted speech; the regulations appear to protect both the state's interest in the proper use of its funds and the university's missions of education and advancement of knowledge. For example, private research sponsors often try to limit dissemination of sponsored research results to gain an advantage in the marketplace.⁹⁸ Conflict of interest regulations can minimize such restrictions on the sharing of information.

Although California's regulation does not direct the university review committee to analyze problem situations for restrictions on dissemina-

OK Research But Want More Safety, 195 *SCIENCE* 268 (1977). Such regulations address the directly or potentially harmful effects of research, not its content. Similarly, the purpose of conflict of interest regulation is to deter the misuse of public funds or facilities and to promote confidence in the integrity of public officials.

⁹⁵ *E.g.*, Robertson, *supra* note 93, at 1216: "Science provides information relevant to a wide variety of individual and societal decisions ranging from one's views about the nature of man and the universe and the wisdom of governmental policies, to individual choices regarding the purchase of certain products."

⁹⁶ *Cf.* *United States v. O'Brien*, 391 U.S. 367, 376-77 (1969) (draft card burning). The Court held that government regulation is constitutional if it furthers an "important or substantial state interest," provided the regulation is not aimed at restricting expression, and is no more restrictive than is necessary to further the state interest: "[W]hen 'speech' and 'nonspeech' elements are combined in the same course of conduct, a sufficiently important government interest in regulating nonspeech elements can justify incidental limitations on First Amendment freedoms." *See also* *Young v. American Mini-Theaters, Inc.*, 427 U.S. 50, 66 (1976) (protection of speech depends on its content and harms and benefits arising from it); *Police Dept. v. Mosley*, 408 U.S. 92, 95 (1972) (government may not restrict protected expression because of its message, ideas, content, or subject matter). For a discussion of the difficulty in applying a content analysis to restriction of protected speech, see Redish, *The Content Distinction in First Amendment Analysis*, 34 *STAN. L. REV.* 43 (1981).

⁹⁷ *See, e.g.*, *Konigsberg v. State Bar*, 366 U.S. 36, 50-51 (1961):

[G]eneral regulatory statutes, not intended to control the content of speech but incidentally limiting its unfettered exercise, have not been regarded as the type of law the First or Fourteenth Amendment forbade . . . , when they have been found justified by subordinating valid governmental interests, a prerequisite to constitutionality which has necessarily involved a weighing of the governmental interest involved.

⁹⁸ *See* sources cited *supra* note 2.

tion of knowledge, internal UC guidelines require review on this point.⁹⁹ Thus, at the Berkeley campus, the committee scrutinized a grant contract that contained a restriction on computer codes developed in the course of research.¹⁰⁰ Such a restriction may be interpreted as a curtailment of the right to receive information, a component of freedom of expression, as well as academic freedom, and may be detrimental to the free interchange of ideas. The Berkeley committee found this restriction an "unacceptable limitation on freedom of publication and information exchange," and demanded that the agreement be modified to permit publication of the codes.¹⁰¹

A second component of academic freedom is institutional autonomy.¹⁰² Many state universities, including UC, enjoy state constitutional status¹⁰³ that, in effect, makes them a separate branch of government, free from legislative control. In California, however, the University's autonomy extends only to "exclusively University af-

⁹⁹ Interview with Robert Leidigh, *supra* note 8.

¹⁰⁰ Letter from H. Frank Morrison, Professor, Engineering Geoscience, UC Berkeley (Mar. 28, 1983), in Staff Memorandum, Appendix VI, FPPC (copy on file at U.C. Davis Law Review office).

¹⁰¹ *Id.*

¹⁰² For an analysis concluding that "the reasons that make a strong case for institutional autonomy are not identical to those that justify the protection of academic freedom," see Finkin, *On Institutional Academic Freedom*, 61 TEX. L. REV. 817, 818 (1983):

Inquiry into the internal operation of an institution by some external body, as *Sweezy* (and *Barenblatt*) demonstrate, can be an invasion of institutional autonomy. That determination turns on an assessment of the purpose and effect of the inquiry — its compatibility with the academic enterprise, whether procedural safeguards for the institution are available, and the likely effect of the inquiry on academic freedom and the conduct of educational affairs.

Id. at 855.

¹⁰³ For example, the University of California is considered a separate branch of state government. CAL. CONST. art. IX, § 9. For a discussion of the creation of the university, see *Williams v. Wheeler*, 23 Cal. App. 619, 622-23, 138 P. 937, 939 (1st Dist. 1913). See generally Horowitz, *The Autonomy of the University of California Under the State Constitution*, 25 UCLA L. REV. 23 (1977).

In at least 10 other states, state universities are similarly autonomous. See ALA. CONST. art. XIV, § 264 & amend. 161, § 1; GA. CONST. art. VIII, § 4, ch. 2-6701; LA. CONST. art. VIII, § 6; MICH. CONST. art. VIII, §§ 6, 7; MINN. CONST. art. VIII, § 4; MO. CONST. art. II, § 5; MONT. CONST. art. X, § 9; N.D. CONST. art. 54; OKLA. CONST. art. VI, § 31, art. XIII, § 8, art. XIII-a, § 2, art. XIII-B, §§ 1, 2; UTAH CONST. art. X, § 4.

airs,"¹⁰⁴ including the Regents' decisions concerning curricula,¹⁰⁵ course credit,¹⁰⁶ use of student fees,¹⁰⁷ employee salaries,¹⁰⁸ and selection of faculty.¹⁰⁹

The California Supreme Court has recognized that the University is subject to legislative regulation in matters of statewide concern. In *Tolman v. Underhill*,¹¹⁰ the court struck down a university loyalty oath on the ground that the state had intended to occupy the field of employee loyalty oaths by its constitutional oath of office required of all public officials. The court did not precisely define the term "exclusively University affairs," but did consider whether the subject matter of the regulation could be so construed¹¹¹ and whether the issue demanded uniform state treatment.¹¹²

An application of the *Tolman* reasoning to regulation of faculty conflicts of interest suggests that the state intends to occupy the field by regulation of public officials.¹¹³ Furthermore, like university administrators who have long been subject to state regulations, research faculty make decisions that are of statewide concern with respect to the use of state facilities and the expenditure of public funds. Hence, the institutional freedom granted to UC probably does not prevent the state from applying conflict of interest regulations to faculty researchers who are

¹⁰⁴ *Tolman v. Underhill*, 39 Cal. 2d 708, 712, 249 P.2d 280, 282 (1952).

¹⁰⁵ *E.g.*, *Hamilton v. Regents of UC*, 293 U.S. 245, 265 (1934) (regents have power to prescribe nature and extent of courses and student requirements).

¹⁰⁶ *Id.*

¹⁰⁷ *E.g.*, *Erzinger v. Regents of UC*, 137 Cal. App. 3d 389, 187 Cal. Rptr. 164 (4th Dist. 1982) (regents have power to decide how student fees will be spent).

¹⁰⁸ *E.g.*, *San Francisco Labor Council v. Regents of UC*, 26 Cal. 3d 785, 791, 608 P.2d 277, 280, 163 Cal. Rptr. 460, 463 (1980) (university need not adhere to prevailing wage rates).

¹⁰⁹ *E.g.*, *Wall v. Board of Regents*, 38 Cal. App. 2d 698, 699, 102 P.2d 533, 534 (2d Dist. 1940) (university may control selection of professors).

¹¹⁰ 39 Cal. 2d 708, 249 P.2d 280 (1952).

¹¹¹ *Id.* at 712, 249 P.2d at 282. The court did not, however, explicitly define the term "exclusively university affairs." Thus, in *Newmarker v. Regents of UC*, 160 Cal. App. 2d 640, 325 P.2d 558 (1st Dist. 1948), the court applied the reasoning of *Tolman* to conflicting university and state rules respecting job termination and sick leave accrual and upheld the university's regulations. The court observed that the matter was not of statewide concern, the legislature had not intended to occupy the field, and the State Personnel Board rules conflicted with an analogous section of the code, in addition to conflicting with the university's constitutionally granted autonomy.

¹¹² *See* cases citing *Tolman*, which emphasize that a matter of statewide concern requires uniform treatment; *e.g.*, *Wolstenhome v. City of Oakland*, 54 Cal. 2d 48, 55, 351 P.2d 321, 325, 4 Cal. Rptr. 53, 157 (1960).

¹¹³ *See supra* notes 5-8 and accompanying text.

designated as public officials. However, procedural guidelines for implementing state regulation should be carefully drawn. The next section proposes procedural guidelines that maximize the exercise of university discretion in the implementation of state regulations.

D. Procedural Guidelines

Whether or not the regulation is a justifiable intrusion on academic rights or privileges¹¹⁴ may depend on the procedural guidelines used by the conflict of interest review committees in recommending approval or denial of a particular project. Initially, the university should establish criteria allowing the committee to balance the benefits of the research against the harm of the conflict of interest. The review committee might consider foremost that the researchers are representatives of their academic discipline and that approval or denial of the project may affect the state of knowledge in the discipline. Research projects should not lightly be denied when they have significant potential to affect the advancement of knowledge.

The California regulations anticipate the situation in which a researcher with an original idea will potentially contribute both to knowledge and to her personal financial interest in the research. The administrative code expressly permits the review committee discretion in this instance.¹¹⁵ The committee may allow a researcher to continue as principal investigator despite a conflict of interest when it is apparent that no other researcher on campus is qualified to direct it. Alternatively, the regulations allow the university to substitute an equally qualified researcher as principal investigator.¹¹⁶

A related consideration is the effect of the conflict of interest on publication. Financial interests that hinder publication are antithetical to the university's institutional mission of advancing the boundaries of knowledge.¹¹⁷ An open research environment appears to serve the goals of the university and preserve academic freedom best. Thus, even slight restrictions on dissemination of information should be disfavored because they taint the atmosphere of academic openness.

The spirit of open inquiry may also require that the deliberations of the conflict of interest review committee be documented and available to public inspection. The actions taken by the committee gain credibility and legitimacy when opened to the light of public scrutiny. Researchers

¹¹⁴ See *supra* notes 91-113 and accompanying text.

¹¹⁵ CAL. ADMIN. CODE tit. 2, R. 18,705(b) (amendment filed June 4, 1982).

¹¹⁶ *Id.*

¹¹⁷ See *supra* note 32 and accompanying text.

whose projects are subject to review are assured that the actions of the committee are not arbitrary or capricious.

By including research faculty at public universities within the scope of the Political Reform Act of 1974, California has recognized the fiduciary obligation to the public implicit in the university's mission to expand the perimeters of knowledge. The FPPC has focused very narrowly, however, on the issue of the use of state monies, facilities, and personnel for public purposes. Within this scope, the regulations require only transactional disclosure of a faculty member's financial interest in the private entities that fund her research.¹¹⁸ Thus, a faculty member at a public university in California need not disclose any financial interest in private entities that benefit financially from research funded by other private entities or by the government. Faculty at private universities are not subject to any state conflict of interest regulation at all. Yet the financial interests of researchers in all these situations may affect the spending of large sums of public monies without public scrutiny. It might, therefore, be more efficient if the federal government were to require financial disclosure by all researchers at both public and private universities as a condition of receiving federal research funds.

IV. FEDERAL REGULATION OF CONFLICT OF INTEREST

The federal government already regulates some aspects of research¹¹⁹ and could also regulate conflicts of interest in federally funded research, but this might require that Congress create yet another federal agency and advisory board to devise an administrative procedure for compliance and review. A more efficient mode of regulation could be modeled on California's experience with transactional financial disclosure.

The federal government supports scientific research primarily by channeling funds through the National Institutes of Health and the National Science Foundation.¹²⁰ Universities that receive federal grants already follow government mandated administrative and accounting procedures, which include filing detailed reports from research investigators on a regular basis. It would add little to the administrative burden if the government were to require the attachment of a financial disclosure report similar to that used by the FPPC in California to applications for funding and renewal of research projects. This broad-

¹¹⁸ CAL. ADMIN. CODE tit. 2, R. 18,705 (amendment filed June 4, 1982).

¹¹⁹ See *supra* note 94.

¹²⁰ See NSF REPORT, *supra* note 1.

ened application of California's transactional procedure would result in financial disclosure by most university researchers. Yet it would minimally intrude into the personal finances of faculty if it were limited to disclosure of equity interests in and financial income from entities that benefit financially from the faculty member's government funded research.

A nonprofit public interest group¹²¹ has recommended federal legislation requiring universities to adopt codes of ethics that include financial disclosure as a condition of receiving federal funds.¹²² This approach would provide universities with some leeway in accommodating local conditions and at the same time assure fairly uniform regulation of conflicts of interest across the nation and in both public and private universities. It could safeguard the public's interest in the funding of university research without unduly infringing on either the financial privacy or the academic freedom of university faculty.

CONCLUSION

In a technological society, scientific knowledge tends to be viewed as a commodity produced by a scientific and technical elite. The expertise of this elite is essential to governmental decisionmaking for the creation of public policy, for public understanding of government policies and programs, and for the transfer of knowledge to business, which relies on scientific advances to remain competitive in domestic and international markets.

To the extent that the university is a fiduciary social institution committed to serving social goals, the knowledge it generates and transmits is a public possession. It follows that the fiduciary obligations of the university and its faculty would not be met if it were to serve primarily private interests. The social responsibility of the academic community may best be fulfilled by adherence to professional standards of competence and integrity to justify the contingent privileges of academic freedom.

Regulation of professional ethics need not necessarily be confined to mechanisms exercised by the profession, however. In California, public

¹²¹ The Natural Resources Defense Council, Inc. has its main offices in New York, San Francisco, and Washington, D.C.

¹²² *University/Industry Cooperation in Biotechnology: Hearings Before the Subcomm. on Investigation and Oversight and the Subcomm. on Science, Research and Technology of the Comm. on Science and Technology*, 97th Cong., 2d Sess. 54-62 (1982) (testimony of Albert H. Meyerhoff) (copy on file at U.C. Davis Law Review Office).

universities now regulate some areas of conflict of interest in conjunction with a state agency, the FPPC, that requires faculty to disclose their financial interests in the private entities that support their research. The restrictions of the regulation and the review procedure are directed at the conduct of the research, not its content, and serve the important governmental interest of deterring conflicts of interest. Similar regulation instituted by the federal government as a condition attached to the distribution of research grants to public and private universities would further reduce the potential for conflicts of interest in university-industry affiliations and strengthen public confidence in the integrity of university researchers.

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