PROFESSOR AS CONSULTANT: CONFLICT OF INTEREST?*

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My assigned topic is the potential conflict of obligation on the part of a professor at a university who also undertakes private consultation with a (for-profit, commercial) firm. My focus is the potential for abuse of professorial privileges, those which arise from the social interest in sustaining universities as centers of unfettered teaching, scholarship and research which adds to the body of knowledge socially shared. My orientation is similar to that of the constitutional charter for patents, namely to legitimate well-regulated incentives for private gain with the objective of enhancing useful knowledge, protecting the core goals of the university, and leaving moderate economic incentives for commitment to academic versus other careers. My discussion will mainly have to do with the private obligations of the professor: other speakers will have reviewed extramural contracts made by the university as a corporate entity. The obligations and tenure of university faculty are more a product of evolving tradition than formal code. Schools of engineering, business and law have long since worked out a reconciliation of many of the value conflicts, especially as between teaching and industrial service, and these are often mutually synergistic. The sudden expansion of interest in the applications of biology and other basic sciences raises new questions: conflicts may well arise between proprietary applications and research traditionally in the public domain, and substantially funded from public sources.

No one is likely to quarrel with the social merit of providing academic expertise to private industry.[1] Besides its indispensable con-

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[1] Coleman, James S., 1973. The University and Society's new demands upon it. Chap. 8, pp 359-399 in Kaysen, C. (ed.) Content and Context: essays in college education. Carnegie/McGraw Hill 1973.

tribution to technological innovation and efficiency, that independent expertise should also enhance the responsible authenticity of industrial claims for their products, and accelerate early awareness of possible public hazards. This remark is premised on the consultant serving as a detached expert, not a public-relations apologist. Some well founded public grievance may be founded on the depletion of experts able to speak on controversial matters with absolute and overt detachment, thus complicating if not frustrating considered policy decisions in fields like nuclear energy, pharmaceutical regulation and military procurement. However, I leave to other forums[2,3] the complexities of expert consultation to government, albeit this has raised the most vexing legal confrontations.

Hypothetically, consulting service could be retailed in many different ways. Where university facilities and staff are extensively involved — for example a chemical laboratory — it is inescapable that the university be a party to the contract. It might organize or affiliate with more or less independent research service groups still better able to aggregate supporting staff dedicated to industrial activity. At one extreme, it might even incorporate compensation to each professor for these efforts into a salary or commission scale. This style is however criticized for bringing extra-academic criteria into the university's preferences for faculty. The consensual doctrine is that support of technology remain a byproduct of scholarly excellence, and that any other course would eventually undercut the very quality of thought which is the prize of academic involvement.

Most universities have taken a pluralistic course. A few have affiliates in which some professors may voluntarily enroll. Many will allow for exceptional contracts embracing a well-defined area of work, negotiated principally at the initiative of an entrepreneurial professor. None will refuse contributions from a reputable firm; all will want to negotiate about intellectual property rights and other quid-pro-quo's when the contributions are other than charitable.

The 'byproduct doctrine' has also informed universities' policies about professors' consulting work. University corporate policy is generally neutral about extramural consulting, the major concerns relating to such obvious problems as excessive diversion of time from internal responsibilities, improper exploitation of the university's name

[2] Lederberg, J., 1972. The freedom and the control of science — notes from the ivory tower Southern California Law Review 45:596-614.

[3] Lederberg, J., 1974. "A System-analytic Viewpoint" in How Safe is Safe? — The Design of Policy on Drugs and Food Additives. National Academy of Sciences, Washington, D.C., p. 66-94.

and reputation, coercion on students, and felonious conversion of university property for private gain. Universities are not eager to police the levels of external income received by faculty, so long as the stated pitfalls are guarded: there remains small controversy on this point, rather more about the need for routine prior disclosure of consulting work, and none that potential conflicts in decision making or with overlapping formal obligations be fully disclosed in context.

In a masterful essay, virtually uncited as far as I can learn, James S. Coleman[4] has amplified how the consulting relationship has become one of the important social functions of the university. In the absence of a well organized market, there is some likely to be a substantial misallocation of resources, the university's investment in facilities for and recruitment, screening, nurture, and job tenure of its faculty being a free good to the firm at academic pay scales. The question of reimbursement to the university aside, efficient allocation would require pricing at some multiple of routine academic pay. Following his reasoning, I would suggest a reasonable formula would be $150 to $300 per hour, shared evenly between the consultant and the institution. Even if these fees are not explicitly shared, they will become internalized into the incentive structure of academic employment, as happens routinely at schools of business and engineering, enabling universities to attract high talent at formal scales that would be grossly uncompetitive with industry.

Ideally, consulting will be intellectually stimulating, educational to the consultant (if only for its window to other sectors of our culture), and important to the firm's objectives and by that token to the social interest in keenly competitive innovation. In fact, professors today are so burdened with the most routine of administrative tasks, often with grossly inadequate infrastructural support that, per hour of time spent, consulting may be among the more intellectually demanding of their duties and have high operational utility in terms of tasks achieved.

In the past, most consulting has been extramural in every sense: the problems addressed came from the firm; the professor did the work there, not in the university laboratory; the professor brought general analytical skills and the interpretation of a body of widely shared information from the academic setting; the proprietary contribution was the firm's. In these circumstances, it is relatively easy to draw a sharp line between the intra- and extra-mural responsibilities and activities of the professor; and we could then sustain a laissez-faire posture on the consulting relationship.

[4] Footnote 1, *supra*.

New problems and conflicts arise out of the emergence of proprietary values from the academic work of the professor. Our task now is to sort out the assertions of various claimants to those values; and there are inevitable side-effects beyond the allocation of the fruits when significant sums are involved or even imagined.

To do this now requires a reexamination of the relationship of the professor, for example as employee and at the same time as part of the governance of the university corporation. Many aspects of that relationship are rooted in traditions that go back to medieval times, for example in the immunities that stem from ecclesiastical and sovereign protection of university faculties.

The professor as teacher gave little opening for a university-corporate claim on the intellectual product; so there has been virtually no effort by institutions to recover income from copyright, even when substantial university contributions were given in the form of secretarial assistance, library, and so on. One can argue for the social utility of encouraging the extra effort of writing textbooks — even if for profit — and should not forget the eventual internalization of these fringe opportunities into the overall compensation structure. To be sure this means the non-literate professor will, on average, earn correspondingly less. However, if a colleague is envious, that colleague can write his or her own book; we pass by such abuses as compulsory assignment of books to one's own students — matters such as these are quite reasonably dealt with through peer sanctions. Furthermore, the teaching responsibility can be reasonably well calibrated; and overt neglect will be visible and accounted.

Scientific scholarship today is however dependent on very high institutional investments to allow research to continue. Besides capital investment in space and instrumentation, there are enduring commitments to support personnel, and a host of indirect costs ranging from shelter, libraries, power and light to public relations and liability insurance. Investigators are happily oblivious of this corporate umbrella (except when it fails). These support structures are costly to the institution and indispensable to the researcher. They are inevitably rationed; and it is an institution's grave responsibility to ensure that these investments are allocated to the most competent and most effective talent. Ultimately they are of course a social investment, whether immediately from government grants or indirectly through the civic, third-sector tax-lenient system that has been so creatively productive in this country.

It is these investments, and especially their opportunity costs vis-a-vis alternative allocations that justify the university's interest in the patent rights and other intellectual property generated by its

professors in the course of their academic work. This is of course just the starting point of a negotiated balance amongst the relevant interests. The purpose of university regulation is not only to recapture possible profits, but mainly to sustain a system of incentive and reward that sustains the essential values of the university as a community. There is of course substantial competition and privity in science despite its dedication to public knowledge as its end aim — this is built in to the attribution of talent to proven competence in critical discovery, and this is in turn indispensable to quality control and the effective allocation of resources. The main shortcoming of the current peer review system is its excessive preoccupation with pre-designed projects; nevertheless the community as a whole still operates very well. The short-run competition for 'glory' is a constructive incentive of proven use: it has helped more than hindered the social goals of scientific research, only marginally interfering with the timely publication of new results, the only way that glory can be gained. The pursuit of profit follows different, unfamiliar rules; and there are well-founded fears that gross disparity of rewards may motivate the deviation of a laboratory's programs to secretive, short-run, scientifically less fruitful aims.

True, 'profit' is likely to be correlated with social utility. However, that is precisely what the industrial sector is all about; and I would urge that we not get our lines crossed. We should sustain the university as a fount of more fundamental, publically available knowledge; leave to industry its particular challenges, for which I believe it is better organized in any case; and be sure to maintain patterns of authentic interrelationship that leave each side well able to do its special task. I suspect that this will evolve just that way in the long run, provided that social support for the university system can be sustained. It is not likely that will come about from royalties on patents; and if we depend on industrial contracts we may indeed starve out many more fundamental lines of work that have no short run proprietary appeal. A modest percentage of support from such contracts can however spare other funds, and provide interesting stimulation along other lines, and I see no reason not to continue to seek them up to the limited level that I believe they will in any event be forthcoming.

The current craze of professional entrepreneurship is, I suggest, an aberration in two respects: biotechnology as a technical discipline caught industry dozing, and we are just now watching the transient of major firms' catchup of their in-house capabilities. Second, in that same transient, we have been observing a Wall-Street as much as an industrial boom: the disillusionment of the capital markets and the

actual productivity of established enterprises will be a spontaneous corrective to the distraction of academic interest to entrepreneurial games that we have seen in the last few years.

The statement of these principles is easier than their implementation. The separation of intra- from extra-mural know-how is not so clearcut in the new fields where industry is depending so strongly on academic initiatives. As the pharmaceutical industry becomes better grounded on fundamental science, this dependency will be deepened. There will be aggravated temptations for the involvement of graduate students in work that is driven by a professor's private consultorial interest; but this transgression is not likely to be condoned for long either by students or by colleagues. It will not be easy to police the source of know-how conveyed by a professor as consultant. However, if the university community has discussed these details, I believe common-sense solutions will emerge. And any firm, knowing that the university has avowed a potential claim, will of course be prudent to take its own steps to avoid future conflicts over them. Ideally we will return to a pattern where most professors can draw a clearly delineated boundary between their academic and industrial interests; and if not, that they will have discussed their problems and achieved a clear understanding with the university governance about their individual cases.

There remain complications where the University itself has a proprietary interest, either by its implicit rights as employer-investor in internally funded work, or derivative of a contract with government or another sponsor. In the latter case, the use of university facilities for an agreed corporate purpose has been agreed to. Should the professor then receive additional compensation as an independent consultant, in an overt complication of the intra- vs. extra-mural rule? There are arguments on both sides, including the fact that the professor has surely foregone other consulting opportunities.

Where no third-party sponsor is involved, the university still has a proprietary interest in intra-mural inventions. (A contract spells out the obligations more clearly but does not generate the interest.) In principle this might already be a source of hindrance to publication that would frustrate patent filings. Does a professor have any obligation to the university to cooperate in the pursuit of a patent, by delaying publication? by diligently pursuing lines of development that were not part of his or her primary research plan? by outrunning potential rivals to the university's patent? And what if these secondary obligations were complicated by a consulting interest? As far as I know, universities have not so far pressed their interests to these kinds of issues. This is perhaps wise; but there are then likely to be posterier

recriminations if large sums should be involved. On the other hand, many professors will be rightfully aggrieved if they are given to believe they have a positive obligation to pursue patents as more than an incidental side effect of their work. It would seem reasonable that the university expect as much diligence for its interest as a professor shows for any other property interest, a principle easier stated than enforced.

Considerations like these contribute some force to the proposal of open divulgence of consulting relationships, including consulting income. The pros and cons are mainly pretty obvious: there is an intrusion on privacy; there is also the protection to the consultant of having attributable conflicts on the record. There is the invidious hazard of having individual fees (and salaries) on the record. If uniformly practiced, certainly we could live with open declarations; indeed this might well open up the market (precisely through the invidious mechanism) and increase average fees. How to enforce such procedures and in turn how to prevent new frictions from strictly procedural infractions have to be thought about. Certainly there should be mechanisms to encourage such revelations to discreet nodes in the supervisory chain as a protection to all parties' interests.

Finally, we recall that there are other workers besides professors on the campus. Does a student who uses university facilities have the same obligations as a professor. If that student pays tuition? Conversely if she receive a stipend? Similar questions also apply to collaborating investigators (who may have a primary contractural obligation to another university), to postdoctoral fellows, to guests who are not in an employment relationship.

It is no novelty that many dilemmas attend any such Question of Property.