This paper examines conflicts and collaboration between industry and universities regarding sponsored research and freedom of publication, particularly in the United Kingdom. An opening section notes that the values of the market and the university are in fundamental conflict which presents problems for institutions attempting to work in cooperation with industry. The advantages of the collaboration fostered by sponsored research are noted as are problems such as loss of faculty credibility as disinterested parties, conflicts of interest, and loss of public trust. Policies of the British Research Council concerning policy funding of fundamental research that increases the industrial relevance of academic research and recent trends toward increased governmental control of publications resulting from sponsored research. Evidence is offered that funding sources are in fact influencing the publication of research results. The paper concludes by asking whether these issues are important enough to be resolved and argues that the fundamental value differences between industry and university must be recognized and respected to avoid destructive conflict. (Contains 13 references.) (JB)
Sponsored Research & the Freedom of publication.
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1. Industry, commerce & the advancement of knowledge

Before usefully considering the relationship between industry and universities it would be useful to ask some basic questions about the functions of universities: 'What are universities for?' 'What do we, in a university, hope to achieve?' One answer to such questions is provided by the Charter of the University, § 2:

'The objects of the University shall be to advance learning and knowledge by teaching and research ...... in close association with industry and commerce'

This links the 'object' of this university closely with industry and commerce. It is important to examine what is explicit in this. What underpins on one hand 'advancement of learning' - the academic process, and on the other, 'industry & commerce'? What are their respective goals, motivations, methods, standards of excellence, logic of freedom? What are their respective values?

<table>
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<th>Table Contradictions between the market and education [McMurt]</th>
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<td><strong>GOAL</strong></td>
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<td>To maximise private money profits</td>
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<td>To satisfy the wants of whosoever has the money to purchase the goods that are wanted</td>
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<td>To buy or sell the goods it has to offer to anyone for whatever price one can get</td>
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<td><strong>MOTIVATION</strong></td>
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One analysis of some of these questions has been given in a thoughtful paper by John McMurry of the Philosophy Department of Guelph University. He has analysed the respective goals, motivations, methods and standards of excellence of education and the market and concludes that the 'differences between the two are incompatible and
incommensurable' [McMurtry 1991]. Some of his points are summarised in the table, but they do not do justice to the depth of his original paper.

This raises questions that any member of a university, especially of a technological university, should take seriously. Is there tension between the values?, are they incompatible?, are they incommensurable? Only by consideration of such problems can we improve our understanding of how the object of advancing learning can be closely associated with industry and commerce within the good order of the University.

2. **Collaboration: sponsored research.**

Collaboration is long standing [a fortiori in this University] and has increased enormously in recent years:

'The percentage of university recurrent income from research contracts with business has more than doubled between 1982/3 and 1988/89, amounting to more than £91 million or 2.9% of the total in the latter year.'

Gareth Williams & Cari Loder, CIHE 1991

Such collaboration has obvious advantages: the stimulus of different problems and different perspectives, access to otherwise inaccessible research environments, industrial plant, schools, hospitals, government departments etc. and, of course resources & cash.

Recognition of the problems seems to be much greater in North America. Irwin Feller of Pennsylvania State University addressed the Royal Society in 1991 on 'Lessons from the US experience'. He identified a number of problems:

'The university is converted into a market-driven institution where fields of knowledge are supported in terms of perceived social utility, defined at a point in time by the expected profitability of those firms ....willing to enter into research contracts.'

He drew attention to other difficulties including, effects on direction of academic research agenda and on the 'prototypical norms of science', conflicts of interest and erosion of the credibility of faculty as disinterested experts.

He quoted 'Universities and the Future of America' by Derek Bok, until recently President of Harvard:

'Universities are constantly pressed to accept questionable arrangements with industry, [which may include] provisions prohibiting academic scientists funded by one company from collaborating with investigators funded by another....A few institutions have even agreed to clauses that require them to keep faculty members from speaking about their commercially funded research at academic meetings without first submitting their remarks to their industry sponsors.'
The New England Journal of Medicine is one of the most highly regarded publications in its field. Its editor, Arnold Relman, has been concerned about the conflict of interest & corruption of integrity which can result from academics' having financial interests in the selling of their discoveries:

'[Researchers] have an obligation to make unbiased professional judgements, uninfluenced by personal financial interests. [But] the commercial spirit taken such a firm hold on the medical research community [that they] are acquiring financial interests.....[which] erode scientific objectivity and engender the loss of public trust.....'

3. The situation in Britain

When Feller addressed the Royal Society, the THES report suggested that British scientists were less sensitive to these issues than their American colleagues. Do these problems occur here? Because of the limited space I want to concentrate on examples taken, not form contracts entirely funded by industry where problems would be expected to be most acute, but from those substantially paid for by public money.

The Research Councils are supposed to fund fundamental research in universities, but, as is proper, are agents of Government policy in this area. Thus the policy of the SERC now includes:

'encouragement of links between industry and the academic world, thereby increasing the industrial relevance of academic research'

There are now many schemes which encourage joint work between industry and universities in which substantial SERC resources are involved. There is much that is healthy in this, but it can lead to proposals for collaborative work which, despite a small industrial input, gives an industrial partner the right of veto over publication. Contract terms can arise requiring those involved in the research to 'keep secret all information and results relating to or arising from the project' and giving the company 'the right to limit publication in areas where the information is commercially significant'. In SERC cooperative awards publication of the findings is expected, but the investigator has to obtain permission of industrial partner. Similarly for LINK projects give discretion over publication 'to the partners'.

There has been an increasing trend in recent years for government bodies to take powers to control publication of research they fund. This trend was publicly exposed in the debate in the House of Lords on the Health & Medicines Bill in 1988. Lord Ennals drew attention to new restrictions on publication of research commissioned by the Department of Health:

'The new research contract states that publication of research results
"is subject to the prior consent of the Secretary of State, which shall not be unreasonably withheld"
Straightway one asks what is "unreasonable" in this context and what is wrong with the present situation. Until now DHSS-funded researchers have been expected to show the department the results their research prior to publication....and to allow 28 days for the Secretary of State to comment. The contract states that "any comments which the Secretary of State makes shall be considered by the researcher but the researcher shall nevertheless be free to allow publication to go forward in the original form as he thinks fit"

.......The main concern....about the new contracts is that the department will be able to obscure or suppress research results for political reasons....In the past suppression of scientific results for political reasons has led to enormous damage."

A previous Secretary of State had complained that the old contract gave him 'little or no control over the use and publication of research work'. Earl Russell commented:

'.....the use of the word "control" seems to me to suggest a lack of understanding of what you are actually doing when you employ an academic. It is not like employing someone to sweep the floor where you can give them a specific duty. If you employ an academic you let him, or her, loose to find out whatever they find out, however inconvenient that may be. If you do not do that, the person you are employing is, in the end, not quite an academic.'

It is by no means just the SERC and DHSS work that uses contracts inhibiting free publication. The British Educational Research Association Council [Elliott, 1989] complained of

'increasing restrictions being imposed by government agencies on the conduct and dissemination of the educational research and evaluation which they sponsor.'

Roger Murphy and his colleagues in Nottingham have collated examples of contracts from a large number of government bodies including SEAC, DES, Department of Employment and the Training Agency. They comment:

'The standard contracts being issued by these influential bodies are in many respects excessively restrictive, among other things in relation to academic freedom, the freedom of information...'

4. The Effects of these Changes

There is then plenty of evidence that contracts are becoming more restrictive. It could be that in practice the contracts are being interpreted liberally and that there is little actual restriction on publication, and little sign of a clash of values between academics and external sponsors. The evidence is not entirely reassuring.
Adriana Caudrey in 1987 cited a number of examples which suggested that Lord Ennals' worry about obscuring research results for political reasons was well-founded. For example a researcher commissioned by the Department of the Environment to work on rent assessment methods complained that his 'recommendations were so diluted as to be unrecognisable'. Others talked of 'an unofficial grapevine about who is reliable'. 'Unreliable' workers would not be likely to receive further funding.

Clare Wenger has edited a volume which examined the relationship between research workers and external sponsors. In it there is much evidence of sponsors' forbidding work in certain areas and of the suppression of findings. In this atmosphere there is a tendency for academics to adopt self censorship: 'Researchers are cautious about the publication of adverse findings because of the need for continued financial support'.

The CVCP has recently published a paper on sponsored research which suggests that it has [at last] recognised the seriousness of the problem for universities. It recommends:

'under no circumstances should the university allow the sponsor the right to delay publication for an unrestricted period of time.'

5. Are these tensions important? Should they be resolved?

For John McMurtry accommodation to the values of the market must destroy any real education:
'the economic determination of education must entail ex hypothesi the systematic negation of educational goals and standards' [McMurtry 1991].

Amy Gutmann, an American political philosopher, draws attention to the contrast between the 'quantified values of the market' and the 'non-quantifiable values of intellectual excellence and integrity, and the supporting moral principles of non-repression and non-discrimination'. She argues that a university serves society well by 'appreciating, rather than abolishing, the discrepancies between intellectual standards and market practices, since such discrepancies often signal a moral failure of the market rather than an intellectual failure of the university'. [Gutmann 1987, emphasis added]

Derek Bok [1981] is surely right when he places on academic staff the responsibility for maintaining the integrity of academic values ultimately for the good of the society that sustains us:

'the University must not endanger its primary commitment to learning and discovery for these are the functions that ultimately justify its existence and produce the greatest benefits to the community....only if the faculty care deeply enough about the university can we hope to contribute to the useful application of knowledge without eventually compromising our essential academic values.'
We are members of a technological university and are far from being opposed to collaboration with industry. Indeed we have been involved in it for many years. However, unless the fundamental differences are recognised and respected, there will inevitably be destructive conflict where the interests and concerns of industry and academe meet.

References
SERC Research Grants Sept 1986, CGC 12 & 13